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ORIGINAL ARTICLES.

THE ADVANCE IN OUR KNOWLEDGE OF TYPHOID FEVER.[1]

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No apology is needed in introducing a discussion on typhoid fever, for although no medical subject has been more written about, excepting possibly tuberculosis, yet for many reasons this must always remain of absorbing interest; and the advance in our knowledge of this disease in its various phases in recent years and the terrible devastation created by it among our troops during the war with Spain have created a renewed interest in it.

The history of the development of our knowledge of typhoid fever forms an exceedingly interesting and instructive chapter in the history of medical progress. The fevers, so-called, in former times alone caused a much greater mortality than the total mortality from all causes now occurring in favorably situated localities. Under the head of fevers in the death returns were included typhoid, typhus, and malarial fever, and probably many other forms of disease whose nature was unrecognized. The differentiation was not then possible, although the occurrence of continued fever with intestinal ulceration was well known, and the characteristic types of malarial fever were long ago clearly recognized.

The first great step in the advance was made through the observations and writings of Shattuck, Gerhardt, Bartlett, and Flint in this country, and Sir William Jenner in England, which defined the characteristic anatomical lesions of typhoid fever and made possible its clinical differentiation from typhus. The first period in the history of our knowledge of the disease may be said to have terminated then at about 1850. The second period may be said to extend from this time to 1880, when the discovery of the typhoid bacillus by Eberth was announced, although for a number of years after this Eberth's observations had but little influence. During this second period important contributions were made to the morbid anatomy, clinical history, diagnosis, and treatment of this disease. The third period extends from 1880 to the present time, and it is during this time that the greatest advances have been made.

Until accurate bacteriologic investigations had corrected and extended our knowledge, enteric fever seemed a better name for this disease than typhoid fever, as it indicated the site of what appeared to be the essential anatomical lesions of the disease. The involvement of the solitary follicles and patches of Peyer in the ilium and the presence of ulceration in them were essential post-mortem for a diagnosis. Although many observers held the opinion that a typhoid infection might exist without the presence of ulceration, or, indeed, of any changes in these structures, yet the proof was wanting. Now, however, there is abundant evidence to show that while the primary localization of the typhoid infection in the lymphatic structures of the small intestines is the usual one, and is present in a very large proportion of all cases, yet the primary infection may be centered in other organs or tissues of the body, or it may take the form of a typhoid bacillus septicemia. Thus carefully observed cases have been described in which the identity of the typhoid bacillus has been established, in which the primary site of the infection was situated in the respiratory tract, the urinary tract, and the mesenteric glands and the spleen, and a number of cases have been reported in which the intestinal ulceration was confined to the colon. Many cases also of cholangitis, cholicystitis, meningitis, pyelitis, laryngitis, and inflammations of other mucous membranes have been reported as having resulted from the action of the typhoid bacillus. In the large majority of these latter the lesions have occurred secondarily and as complications of typhoid lesions of the small intestine. Of course in this connection those cases are not referred to in which various complications have occurred in the course of this disease, which were due to other micro-organisms, such as the streptococcus, staphylococcus, colon bacillus, etc. It is evident, therefore, that we can no longer properly speak of typhoid fever as enteric fever, unless under this latter term are classed only those cases in which the infection is localized primarily in the intestines.

It seems probable, from our present knowledge, that generally at some time in the course of typhoid fever the bacilli are present in the circulation in

[1] Introducing a Discussion on Typhoid Fever before the New York Medical Association at the Sixteenth Annual Meeting, held September 23–26, 1899.

small number. Only occasionally, however, do they produce local inflammations outside of the abdominal lymphatic system. Their entrance in the majority of instances, but not invariably, is no doubt through the lymphatic structures of the intestines. That the typhoid bacilli do make their way into the general circulation at some time in the course of typhoid fever in the majority of cases is shown by the presence of the bacilli in the rose-colored spots of the typhoid eruption; in the urine during the later course of the fever, and sometimes for long periods after the beginning of convalescence; and finally by the possibility of the demonstration of these organisms in the blood in many cases by proper methods of examination. Still further evidence is afforded by the presence of the bacilli after death in various organs and tissues of the body, aside from those of the abdominal lymphatic system, an observation which can only be interpreted as giving testimony to their presence in their circulation at some time during the course of the disease. Several years ago Koch told the writer that it was a common practice in the Institute for Infectious Diseases in Berlin to make cultures from the rose spots by snipping out portions of the skin for the positive diagnosis of this disease. We do not know why in rare instances the typhoid bacilli produce lesions in various parts of the body and in others do not—although present in the circulation—but this difference is probably due in part to something which causes a local diminution in resistance, and in part also, perhaps, to differences in the dose and virulence of the virus in different cases. As is now well known, any kind of injury to the tissues of the body render them more susceptible to various infections.

In no phase of our knowledge of typhoid fever have greater advances been made than in the means for accuracy of diagnosis. The observations of Pfeiffer and Gruber, showing that the blood serum of persons ill with typhoid fever exercises a peculiar agglutinating influence on the typhoid organisms in recent cultures, was reduced by Widal to a form in which it was practically available for diagnosis. This test has proved of inestimable value in affording confirmatory evidence, not only in the routine diagnosis, but especially as furnishing most valuable information in the differentiation and identification of obscure cases. While a negative result from the Widal test cannot be regarded as having much significance, a positive reaction in proper dilution is to be regarded as almost conclusive proof of the recent or earlier existence of typhoid fever in the subject. If the reaction develops while the patient is under observation—being absent in earlier and present in later tests—it is, in my opinion, to be considered as almost as strong a proof of the existence of typhoid fever as the demonstration of the bacilli themselves. Thus while the Widal reaction may be very late in its appearance, may sometimes appear only during a relapse, or may be entirely absent in undoubted, and even in fatal cases of the disease, yet when present is of the greatest possible value. The test when present in a dilution of 1 in 50 is to be ranked in importance, in the value of the positive information which it gives, next to that afforded by the demonstration in various diseases of the presence of the specific organisms causing them, as the tubercle bacillus in tuberculosis, the diphtheria bacillus in diphtheria, and the cholera bacillus in Asiatic cholera.

Still more valuable information may be derived, but at much greater expenditure of time and skill, by the demonstration, which is possible in many cases of the typhoid bacilli in the feces, urine, rose-spots, or blood of typhoid-fever patients. The newer methods of differentiation of the typhoid bacillus from the members of the colon group devised by Elsner, Hiss and others have made such demonstrations practicable in many cases where good laboratory facilities are at command. These methods, however, must be much further simplified and rendered more exact before they can be regularly employed as routine measures.

Renewed attention has been devoted in the last two or three years to the value of the diazo-reaction of Ehrlich in the diagnosis of this disease. Nearly all observers are agreed as to its almost constant presence in a decided form in the early stages. Krienkiewicz, as the result of over 16,000 tests, reports that it is always present in the first and second stages of typhoid fever. Michaelis, from Von Leyden's clinic, states that it is almost invariably present early, and sometimes as late as the twenty-second day. He regards it of great value in the diagnosis of early and doubtful cases. Thus it may be present between the third and seventh day, before the Widal reaction occurs, before the eruption appears, before there is any considerable enlargement of the spleen, and when constipation exists. In such cases a decided diazo-reaction may be of much value in confirming the diagnosis.

It is also very frequently present, unfortunately for its diagnostic value, in general miliary tuberculosis—an affection which is frequently mistaken for typhoid fever. The reaction may be of great service in the early diagnosis of relapses of typhoid fever, as it is usually present in the first days of the relapse. The increase or decrease in the intensity of the reaction has much prognostic value, and its gradual

disappearance in a case indicates an abating of the infectious process and of the fever. In my own experience it has been present in a very large proportion of the cases of typhoid fever occurring in my service during the last two years at Bellevue Hospital and St. Vincent's Hospital.

Important observations have been made in recent years with reference to the relation of typhoid fever to disease of the biliary passages and the gall-bladder. The frequent infection of the gall-bladder by the typhoid bacillus in typhoid fever has been well established, this infection apparently taking place, not through a direct extension from the intestinal canal, but through the portal circulation. Probably in many instances the presence of the typhoid bacilli in the gall bladder and biliary passages is not followed by any changes in these parts, but sometimes apparently cholicystitis and cholangitis result, or infection in the gall-bladder may serve as the starting point for the development of gall stones. The long persistence of the bacilli in the gall-bladder in some cases is a remarkable feature of these infections, the bacilli having been found in a few instances many years after the attack of typhoid fever.

The results of preventive inoculations against typhoid fever, although still very incomplete and inconclusive, seem to afford good ground for hoping that they may be of the greatest service in the prevention of this disease among troops, and among those who for any reason are much exposed to possible infection because of the nature of the sanitary surroundings or their occupation. Wright, of the Army Medical School at Netley, has been for a number of months in India inoculating English troops who volunteer to receive treatment. It is stated by him that of 200 attendants at the Maidstone Asylum 95 were inoculated, and none contracted the fever during the epidemic there, while of 105 who refused to undergo the process 19 sufferered from the disease. At Khartoum, of 8 young subalterns 6 consented to receive the inoculations; the other 2 declined, and of these 1 was ill with enteric fever and the other died, while all of the 6 inoculated officers escaped. Wright states that he has inoculated 3000 soldiers, and it is reported that many of the troops going to South Africa are being subjected to this treatment.

Preventive inoculations have also been advocated by Pfeiffer and Marx and by Haffkins. These are made with attenuated or sterilized cultures, and it has been shown experimentally that they produce immunity in animals. They are followed by a febrile reaction lasting for from one to three days and some local pain, swelling and tenderness at the site of the injection. The blood-serum of patients subjected to such inoculations acquires agglutinating properties on typhoid cultures similar to that following an attack of the disease. Very little is to be said as to the specific treatment of typhoid fever. All of the attempts thus far made in the production of a curative serum have been followed by unsatisfactory results, or at least the favorable results reported have not been confirmed by other observers.

The bacteriological investigations have not only greatly broadened our conceptions in respect to the nature and manifestations of typhoid fever, but they have also contributed in a most material way to our knowledge of prophylaxis. How unsatisfactory do the earlier methods of disinfection now seem when we know that the urine, which has usually received little or no attention, contains the typhoid bacillus at some period in the course of the disease, especially during convalescence, and that these bacilli may be present in almost incredible number—estimated by Gwyn in one instance as 500,000,000 in each c. c.—and that they may remain present in the urine for months and probably for years. In the observations made in the laboratories of the Department of Health, the examinations being made largely by Dr. Hiss, out of 51 cases of typhoid fever examined during convalescence, in the urine of 7, or about 14 per cent., typhoid bacilli were found, in some one instance in large numbers, repeatedly, and as late as the ninth week. They are rarely present, however, according to our observations, early; for in 80 cases examined for diagnosis, or for confirmation of diagnosis, chiefly within the first two weeks of the disease, in only two instances were the results positive, and one of these was a case of renal infection by typhoid bacilli and not presenting at all the clinical features of this disease.

The bacilli are undoubtedly sometimes much more numerous in the urine than in the feces; but their presence in the urine is not necessarily in any way associated with the existence of renal disease. Specimens of urine containing them may show no evidence of any abnormality in the kidney or any portion of the urinary tract. The urine may be perfectly clear and liquid and show nothing in any way abnormal excepting the presence of the bacilli, or in some instances it may be slightly cloudy. Cases have been reported, however, and especially cases of so-called renal typhoid, in which the presence of bacilli in the urine has been associated with acute nephritis, and sometimes with pyelitis or cystitis. In some cases in which the organisms remain for long periods after an attack of typhoid fever it seems probable that the bacilli simply multiply in the

bladder without producing any change in the composition of the urine or in the mucous membrane of the bladder. It is evident that the danger of dissemination of infection through this, until recently unrecognized, medium may be very great. With this new fact before us, how easily can all the difficulties in the way of explaining isolated cases and peculiar outbreaks of typhoid fever be disposed of, and how perplexing and complicated become the preventive measures necessary.

One fact is much emphasized in the recent observations in this as it has been in many other infectious diseases, namely, the long persistence in some cases of the infectious element. We have only to mention the cases of diphtheria in which virulent organisms persist in the throat for months after complete convalescence; arrested cases of tuberculosis in which occasionally, without any evidence of any extension of the disease, or with apparently retrogressive changes, the cough may continue and the sputum contain tubercle bacilli for twelve or fifteen years or more; influenza with the persistence of the influenza bacilli and their agency in complicating affections occurring months after the initial attack, and probably the recurrence of relapses thus brought about; the presence of gonococci in gleet discharges or in the clumps of mucus from the deep urethra several years after the acute attack and their agency in the production of late complications; the persistence of the scarlatinal infection in the discharges from the catarrhal inflammations or suppurating glands left over after the complications of scarlet fever; the persistence of pneumococci in the saliva for long periods after recovery from pneumonia, and the recurring relapses of malarial fever. I say we need only mention these familiar facts to gain a renewed appreciation of the importance in the matter of prevention of the persisting organisms in the infectious diseases and their influence in the dissemination of disease. The newer observations in typhoid fever add to the accumulating mass of evidence of this nature.

The improvements in the methods of treatment of typhoid fever are best shown by the reduction in the case fatality from this disease. Large collections of statistics of cases treated between 1850 and 1880 before the general use of hydrotherapy show that the hospital death-rate varied from 18 to 36 or 37 per cent., the last excessive mortality being found under specially unfavorable conditions, as in military hospitals. Previous to 1885 the average mortality in the French army is said to have been about 37 per cent. In contrast to this it is reported by Brandt that in the Second German Army Corps, where hydrotherapeutic measures have been thoroughly and systematically carried out, the mortality is less that 4 per cent. While cold baths have been systematically employed to a large extent in Germany since 1865, they were not in general use in other countries until a much later period. All recent reports show that through their systematic use the case fatality has been reduced in large collections of cases in various parts of the world to between 4 and 9 or 10 per cent., with an average of about 7 per cent. Where the mortality has been higher, 9 and 10 per cent., investigation has usually shown that a considerable proportion of the cases have not come under observation until the second or third week of the disease.

But while there can be no question that the use of cold baths has contributed more to this result than any other measure, yet I cannot but believe that improvements in the treatment in other respects have contributed, to no small extent, to this result. We have learned to use drugs less and less and to watch carefully the nutrition of the patient. I believe all physicians who see many cases in consultation in private practice are impressed with the tendency of the general practitioner to do too much; too often the treatment is positively injurious. Hospital patients generally receive few drugs. The average death-rate from typhoid fever in the large hospitals of the world is certainly not more than one-half, and probably not more than one-third what it was between 1850 and 1865 or 1870. The possible saving of life afforded by surgical interference in the cases of perforation of the intestine needs only passing mention in this connection.

The problems presented to sanitary authorities by the more recent observations in the bacteriology of some of the infectious diseases are simply insoluble from a practical standpoint. Who has proposed any practicable method for dealing with those cases of diphtheria in which the bacilli, persisting in the throat for months after complete convalescence, retain all their virulence and remain unaffected by any local measures of treatment? It is also evident in view of our present knowledge that the urine of every case of typhoid fever should be, not only systematically disinfected, but that it should be examined at intervals during convalescence, and the case should be kept under observation until it is permanently free from bacilli. That such measures can at present be actually carried into effect is manifestly impossible.

Fortunately in this disease it seems probable from the limited observations thus far made that the methods suggested by Richardson, of irritation of the bladder with 1 in 50,000 solution of corrosive sublimate and the internal administration

of urotropin cause the disappearance of the bacilli from the urine within a short time.

The frightful possibilities yet involved in the prevalence of typhoid fever were presented in a most lurid light during the Spanish war. In the face of all of the modern progress in the knowledge of the infectious diseases and the means for their prevention, and in spite of the extraordinary advances in sanitary medicine in all its phases, hundreds and thousands of our soldiers sickened and died of this disease; and many returning home while ill or during convalescence carried with them and spread broadcast typhoid infection in many towns, villages, and rural districts throughout the United States. Other hundreds and thousands of people have since contracted the disease as the result of the dissemination of the infection.

Typhoid fever, which previously prevailed particularly in the cities and large towns, is becoming more and more a disease of rural districts. In the larger cities, which are provided with a pure water-supply and an efficient sewerage system, the disease has become to a large extent one of those which results from importation of the infection from outside. The morbidity and mortality rates from typhoid fever in New York City, for example, are comparatively low (death-rate .15 per 10,000 population in 1897 and .18 in 1898; increase due to typhoid fever among soldiers), and of the cases which occur careful investigation has shown that a large proportion have contracted the disease outside of the city. Of those cases developing within the city limits a few are undoubtedly the result of the transmission through direct contact; others result from milk infection derived from the country districts—several such groups of cases are traced out each year—still others are undoubtedly the result of infection through the contamination of food, oysters, fresh vegetables, etc.; a few probably receive their infection while bathing in the water of the North or East River contaminated by the city's sewage; in still others the source of the infection cannot be found, but from the very limited number of these cases it is quite evident that they are unrelated to the water-supply.

The cases resulting from contact are undoubtedly due to infection through lack of sufficient care in regard to cleanliness, the evidence of transmission through the air being far from conclusive. In these contact cases the infection is probably caused by the soiling of the hands, or the introduction of the infectious matter through the food, drink, or in some other way into the mouth. I believe there are few cases occurring in New York City which do not result from infection by some one of the means described, and for the most part derived from without the city limits. If a city is content to use for drinking purposes a water into which its own sewage or that of its neighbors is discharged, as is the case in a number of cities in this and other States, the prevalence of typhoid fever cannot be considered remarkable. The permanent and considerable prevalence of this disease in any city, in view of our present knowledge, stamps the authorities as ignorant, corrupt, or grossly indifferent to the welfare of the inhabitants. All of the advances have emphasized more and more strongly the importance of proper sanitary conditions in its prevention.

I have only attempted to indicate most briefly some of the more important contributions to our knowledge of this disease and desire to add just a word in conclusion as to the problem of prevention in the future. The solution of the problem lies in the sanitary education of our medical men and of the people. I long ago insisted upon the importance of this, and Osler has strongly emphasized this phase of the question in a recent admirable address before the New York State Medical Society.[1] Hygiene is a subject which is not studied and not taught in this country. Its simplest elements are known to the very few, even of the medical profession. There is scarcely a medical school in which the students have a single course of lectures on general hygiene which is worthy of consideration. In most of them the subject is not taught at all, excepting incidentally in connection with bacteriology and medicine. The natural result is that the medical profession as a class are very deficient in a proper knowledge of the subject, or any appreciation of its importance. Sanitary officers, generally medical men appointed through political influence, without reference to fitness, receive little or no compensation for their services, and in the smaller towns, villages and rural districts are unfamiliar with sanitary methods; wanting in special knowledge of sanitary subjects, and ignorant of the possible results of sanitary reform. They have neither the means, nor can they afford the time, to acquire the knowledge requisite for the meager compensation received. The laity, knowing still less than the medical profession, are content with the existence of bad sanitary surroundings so long as they do not offend the sense of sight or smell. Consequently, we in the United States, who in almost all other practical matters and in those concerning the comforts and luxuries of living, are far in advance of European countries, in this matter which concerns our health and lives are fully a generation behind.

[1] MEDICAL NEWS, February 25, 1899.

An improvement in the existing conditions is to be brought about I believe:

First, by teaching hygiene in our public schools, our medical schools, and our universities.

Second, the establishment of schools for advanced work in preventive medicine.

Third, the education of men to fill the positions of medical officers of health, and the provision for them of adequate compensation and security of tenure in office.

When these measures have been instituted, and the medical profession and the laity have been gradually educated to the necessity of the maintenance of proper sanitary conditions and what these mean—the purity of the water-supply, good sewage, clean streets, and clean soil in our towns and cities—then, and not till then, will the great advance in our knowledge of typhoid fever show its full effects in the reduction of morbidity and mortality; then, and not till then, typhoid fever will begin to disappear, and the last and most important advance—the prevention of disease—will be recorded by a rapidly decreasing morbidity and mortality list, and the occurrence of such a dreadful tragedy as is recorded in the sanitary history of our war with Spain will be impossible.

EYE COMPLICATIONS IN TYPHOID FEVER.[1]

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EYE diseases complicating typhoid fever are of such rare occurrence that many practitioners of large experience have never met them. Partly on account of their great infrequency, but more particularly because they so closely resemble in their symptoms, diagnosis, course, and treatment the same diseases arising under other circumstances, a brief and summary consideration of them is sufficient.

It is probable that some of the complications involving the interior of the eye are overlooked through neglecting to use the ophthalmoscope; but even in that case their frequency is not as great as would be expected if we take into consideration the undoubted quantity of toxins generated during the typhoid-fever process and taken up into the circulation, and the diffusibility of the typhoid-fever germs, throughout the body and their occasional pyogenic character as set forth in that classic on the "Surgical Complications and Sequels of Typhoid Fever," by our distinguished guest and learned colleague, Professor Keen.

Conjunctivitis, both catarrhal and herpetic, and inflammations and ulcerations of the cornea are seen more frequently than other eye complications, unless, perhaps, we except those more strictly functional troubles, manifested by dilatation of the pupils and weakness of accommodation. Retinal hemorrhages seem to be next in frequency, according to published reports. Other diseases which have been observed are hypopyon, suppurations of the deeper structures of the eye and panophthalmitis, iritis, cyclitis, choroiditis, opacities of the vitreous humor, opacity of the crystalline lens, optic neuritis, both retrobulbar and intra-ocular, with subsequent partial or complete optic-nerve atrophy, neuroretinitis, embolism of the central retinal artery, orbital cellulitis, thrombosis of the orbital blood-vessels, orbital hemorrhage, paralysis of the extra- and intra-ocular muscles, together with scotomata and general impairment of vision, which are but secondary to the inflammations, atrophies, or hemorrhages present, or perhaps to an overpowering toxemia which but temporarily disturbs vision and muscular action. Hemianopsia has been recorded, but can only be due to some lesion posterior to the optic commissure and not to any disease of the eye itself.

These complications seldom develop until the later stages of typhoid fever. Some of them are post-febrile in their manifestations, particularly the ocular palsies and optic-nerve atrophy.

As early as 1817 Carron du Villards[1], in an epidemic that was undoubtedly typhoid fever, observed a series of cases of persistent amaurosis. Numerous cases of the various complications above mentioned have since been recorded from time to time, the historical details and bibliography of which may be found in the exhaustive works of Fœrster,[2] Max Kneis,[3] Emile Berger,[4] and in the excellent chapter by George E. de Schweinitz in the monograph of Professor Keen already mentioned. Charles Stedman Bull has also given a brief résumé of the subject in a paper published in the *Medical Record*, April 24, 1897.

While typhoid-fever germs may, at times, be the active agents in the production of eye diseases, it is probable that their toxins, judging by analogies to diphtheria and other infectious diseases, play the more important rôle.

But whether the germs or toxins are chiely causative, they are potent in proportion to their virulence, to their detention by an enfeebled circula-

[1] Read at the Sixteenth Annual Meeting of the New York State Medical Association, held at New York, October 24, 25, and 26, 1899.

[1] "Guide Pratique pour l étude et le traitment des maladies des yeux," Bruxelles, 1838, tome II., page 504.

[2] "Graefe 'nd Saemisch's Handbuch," vol. vii, first edition.

[3] Relations of Diseases of the Eye to General Diseases," Max Kneis; American edition by Noyes, 1895.

[4] "Les maladies des yeux dans leurs rapports avec la pathologie générale," Émile Berger, Paris, 1892.

tion, and to the diminution of tissue resistance. In many cases their action may fall short of producing inflammation, amounting only to functional disturbance of vision and ocular motility, as shown by temporary impairment of vision, vascular congestion, diminished winking reflex, weakened accommodation, and dilated pupils. Such cases, as might be expected, are by far the most frequent. In other cases a superabundance of germs or an unusual virulence of the toxins in the blood often induce in the eye tissues, at a low ebb of vitality, active inflammations that terminate in destructive suppuration and ulceration The uveal tract, by reason of its great vascularity, and the cornea because of exposures, are peculiarly open to such attacks; hence, the iritis and chroiditis. The delicate nerve elements of the eye are also susceptible to such invasions; hence the neuritis and retinitis.

Besides these conditions which are evidently due to local germ action or intoxication, there are some affections which are transmitted by contiguity from preexisting, complicating diseases of the adjoining sinuses. This undoubtedly accounts for certain cases of conjunctivitis and orbital cellulitis. Embolism of the central retinal artery, with the immediate blindness which takes place in the eye whose retina is thus deprived of its blood-supply, thorombosis of the orbital veins, hemorrhages into the orbit, or intra-ocular hemorrhages are all secondary to preceding, complicating affections of the endocardium, blood-vessel walls or the blood.

In low states of typhoid fever when the toxemia is so profound as to almost paralyze the winking reflex and the secretory function of the glands that moisten the eye, the conjunctiva and cornea become desiccated, their delicate epithelium breaks down, and microbic invasion takes place with all the attendant evils of xerosis, ulceration, abscess, and ofttimes total destruction of the eye.

Fewer cases of intra-ocular complications would pass undiagnosed, if practitioners would examine the eyes of typhoid-fever patients with the ophthalmoscope.

The prognosis of these complicating diseases is made more unfavorable in typhoid fever than when they are found in persons of otherwise fairly good health, and the results are bad, especially in the ulcerative and suppurative affections, in proportion to the gravity of the primary disease.

The same treatment should be adopted that would under other circumstances be suggested. Corneal and conjunctival affections may often be prevented by attending to the closure of the eyelids, if they are inclined to remain open, and to keep the parts moist by occasionally instilling into the conjunctival sac a drop or two of a normal saline, or very mild antiseptic solution.

ANGIOTRIPSY.[1]

BY CLEMENT CLEVELAND, M.D.,
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TORSION and compression of the arteries are really the same in effect, and are both old. They both produce barriers against the escape of blood by causing adhesion of the inner surfaces of blood-vessels and the formation of clots. It is a well-known principle in surgery that whatever favors the production and retention of a blood-clot in a wounded vessel favors the arrest of hemorrhage. Torsion and compression of small arteries have been employed for years, and are effectually employed in every surgical operation to-day.

Thirty years ago, to extend the principle to the control of hemorrhage from large vessels, Dr. J. C. Nott of New York City—in those days a man well-known as a surgeon in gynecology—invented what he named a "rectilinear écraseur." It was designed for the cure of hemorrhoids, the amputation of the cervix uteri, removal of portions of the walls of the vagina in cystocele, rectocele, and procidentia, and, to quote his words from an article published at the the time, October 10, 1871, in the *Atlanta Medical and Surgical Journal:* "This instrument answers well in the operation of ovariotomy, to sever adhesions between the tumor and walls of the abdomen, and, I think, might be trusted to divide the pedicle of an ovarian tumor, but here it has not been tested." The instrument was used extensively at the time for the cure of hemorrhoids, and a description of it, with report of cases, appeared in the *Medical Record.* It was at least an attempt to apply to large vessels the means employed in controlling hemorrhage from small ones. His instrument may rightly, then, be said to be the forerunner of the powerful instruments for blood control which are now beginning to be successfully and extensively used. A drawing of Dr. Nott's instrument may be seen in Tiemann's catalogue of surgical instruments.

In 1897, Doyen of Paris devised an instrument for controlling hemorrhage which he called a "vasotribe," and reported a number of successful cases with its use. Later, Thumin of Berlin, after seeing and using the Doyen instrument, improved upon it in gaining greater pressure.

In 1898, Tuffier of Paris brought out his instrument, which he named an angiotribe, or vessel crusher. With it he claims to produce a pressure

[1] Presented at the Twenty-fourth Annual Meeting of the American Gynecological Society, held at Philadelphia, May 24, 25, and 26, 1899.

of three thousand pounds. I do not consider the name happily chosen, because the tissue, examined by the microscope after the use of the instrument, shows that it is not a crushing that is produced, but compression.

In the early part of December, 1898, Dr. Appert of Paris, who was sojourning in this country for the purpose of study, and who had been a frequent attendant at my clinic at the Woman's Hospital, spoke to me of this instrument of Tuffier and recounted the successes that had been obtained with it. He told me, moreover, that it had met with a great deal of defiant opposition, but was slowly and steadily forcing its way onward, because of the satisfactory and indisputable successes that were being constantly reported from its use. He promised to obtain an instrument for my use. On January 9th of this year Dr. Appert made good his promise and brought me the angiotribe, which he had just received from Paris. I at once put it to the test, and I understand, it was the first use made of it in this country. You will see, by examining the instrument or the drawing of it which is here presented, that it is merely a powerful clamp made to stand an immense leverage. The blades on their clamping surfaces present in the center of each a longitudinal groove; this is for a distinct purpose, which will appear. The pressure is produced by means of a screw, upon which works a wheel or a windlass. When in use one end of the screw is locked upon the end of one arm, while the other end fits into an open cut or claw in the end of the other arm.

In hysterectomy the instrument is applied just as any clamp would be, and the great pressure is attained by means of the wheel or windlass, by turning which the arms or handles are forced closer and closer together, and by that means, of course, bring the blades more and more firmly in coaptation. It is the rule to keep up the pressure during two minutes, that being found a sufficient time for the formation of clots in the vessels. When the uterus is cut away a short stump is designedly left, projecting beyond the surfaces of the blades. When the instrument is removed a flat ribbon of tissue, the width of the blades, is seen, with a ridge of tissue on the upper and under surfaces corresponding to the horizontal grooves above mentioned. The design is that, after the removal of the angiotribe, there will be five barriers against the escape of blood. By this is meant that blood-clots will be formed in the vessels on both sides of the blades and also in the small, central spaces produced, or rather left, by the grooves, and the compressed surfaces will be thoroughly agglutinated. These barriers are all essential, and especially the one on the inner or uterine sides of the blades, where a stump of tissue should always, as I have said before, be left to retain the clots at this point.

I had been using for a year and a half Dr. Skene's electric clamp, and had found such continued satisfaction from its use that I had become an ardent advocate of it, and, in fact, had begun to feel that there was nothing further or better to be wished for. The emancipation from the use of ligatures had afforded me the keenest satisfaction.

My first success with the angiotribe was so thoroughly startling and so satisfactory that I had to at once completely reverse my decision and admit that this new method was really a step in advance of the electric clamp. I saw that the electric clamp would still have its uses, but that the angiotribe must succeed it in the vast majority of vaginal and intrapelvic cases. I at once reported my first case in a short paper at a meeting of the Practitioners' Society of New York, held January 13, 1899. This paper was published later in the New York *Medical Record*. I quote here what was said regarding the method of application of the instrument:

"I had at my clinic that afternoon a case of double tubo-ovarian abscess, with a large, septic uterus. The vagina was capacious, so it was a favorable case for the exhibition of the instrument. The method of operation was as follows: The anterior incision across the cervix was made by the electric knife. The bladder was then separated from the cervix up to the vesico-uterine fold of the peritoneum. The posterior incision was made by the electric knife, and the tissues were thoroughly separated by the finger into Douglas' pouch. The incision was made

complete around the cervix by severing the vagina at the sides of the cervix with the electric knife. The cervix was then grasped at either side of the external os by two traction forceps, and divided longitudinally up to the junction of the cervix with the body. The left half of the cervix was drawn down and to the right, while the angiotribe was applied to the lower section of the left broad ligament. The pressure of the forceps was applied to its utmost capacity of three thousand pounds for the period of two minutes. The left portion of the cervix was then cut away from the forceps and the instrument removed. Not the slightest bleeding followed, showing that the vessels had been so completely crushed that their inner walls were thoroughly glued together. The same was done upon the right side. No bleeding followed. I then opened into the abdominal cavity anteriorly and proceeded with the bisection of the uterus until it was completed. I found, upon passing my finger into the pelvic cavity, an abscess of the tube and ovary of the left side. With some difficulty these were dug out from their bed of adhesions and drawn out. The angiotribe was then applied to the upper section of the broad ligament of the left side, back of the diseased tube and ovary, for the same period of two minutes, then the left half of the uterus was cut away and the instrument removed, and no blood followed. The same process was repeated on the other side, with a similar result. The pelvic cavity and vagina were packed with gauze in the usual way and the patient was put to bed.

In this case, as following the use of the electric clamps in vaginal hysterectomy, there was the minimum amount of pain and not the slightest hemorrhage. The patient is making an uneventful recovery, with scarcely an elevation of temperature above the normal."

Feeling that this method was a most important innovation and that others would wish to have the opportunity of employing it, I at once set to work to have the instrument copied, and Stohlmann, Pfarre & Co. of New York succeeded, after several trials, in producing an instrument fully equal to the French original. In fact, I examined every one they made until this result was attained. It may seem an easy thing for a skilled artisan in this craft to turn out a satisfactory copy of an instrument if he only has the original in his hand. This, however, does not seem to be a trait of the instrument-maker of to-day. The first instrument produced was too weak in its handles, and the edges of the blades were sharp and cutting instead of being smooth and rounded, as also the edges of the grooves; and, moreover, when full pressure was applied the blades were warped upon each other for at least a sixteenth of an inch. These difficulties were remedied as soon as the defects were pointed out. The wading through these difficulties, however, took a great deal of time. The requirements are so thoroughly understood now that I think no one need hesitate to purchase an instrument of American manufacture. I would advise, however, most careful examination before doing so, to make sure that the above-named defects do not appear.

I was enabled to continue my work with the French instrument, as Dr. Appert allowed me to retain it while he was on a three-months' trip to Mexico and the South. On his return he loaned it to other surgeons in this city, and I believe all have reported favorably in regard to it. The first accurately made instrument from Stohlmann, Pfarre & Co. is in constant use at the Woman's Hospital.

Though I have no right to quote my confrères upon the staff of the hospital, yet I think I am right in saying that the general opinion among them is decidedly in favor of the method.

As a result of the work in my service with the angiotribe at the Woman's Hospital, I present here the histories of twenty-six successful cases. An epitome of each history is here given, merely for the sake of the diagnosis and the result.

CASE I.—Mrs. J., aged twenty-three years, admitted to the hospital in the latter week of December, 1898. Married two years; one child born fourteen months after marriage. Gives the history of peritonitis after confinement.

Symptoms.—Constant pain in both iliac regions. Three weeks ago had recurrent pelvic peritonitis. Examination revealed enlarged, fixed uterus, with masses on both sides.

Diagnosis.—Double pyosalpinx, with probable septic uterus

Operation, January 9, 1899. Vaginal hysterectomy, with double salpingo-oophorectomy. Angiotribe used. Third day after operation temperature reached 103½° F., but subsided to 99° F. on the fourth day. Subsequent history unimportant. Recovery.

CASE II.—Mrs. W., aged fifty-four years, entered the hospital early in January, 1899. Married twenty five years; one child, born twenty-one years ago. One miscarriage, eighteen years ago.

Symptoms.—Pain in the right ovarian region. Has been flowing somewhat profusely for two years, sometimes lasting two weeks at a time.

Diagnosis.—Carcinoma uteri.

Operation, January 16, 1899. Vaginal hysterectomy, with removal of adnexa by the angiotribe. Duration of operation, one hour. Convalescence uneventful. Recovery.

CASE III.—Mrs. M., aged twenty-one years. Admitted to the hospital January 7, 1899. Married seven years; no children; four miscarriages, last one

in July, 1897. Menstruation irregular since July, 1897. No menstruation since October, 1898.

Symptoms.—Constant pain at present in left ovarian region and back.

Diagnosis.—Enlarged, adherent left ovary.

Operation, January 30, 1899. Posterior vaginal section for removal of left tube and ovary with the angiotribe. Duration of operation, forty-five minutes. Range of temperature after operation 98° to 99⅘° F. Uneventful recovery.

CASE IV.—Mrs. B., aged twenty-seven years, admitted to the hospital December 17, 1898. Married eight years; two children; two miscarriages, the last five months ago. Several weeks previous to entering the hospital was taken with sudden and violent pain in both sides of the abdomen. Last menstruation December 4th; flowed nine days.

Diagnosis.—Double pyosalpinx.

Operation, February 6, 1899. Celiotomy. Removal of intraligamentous ovarian cyst with angiotribe. Time of operation, forty-five minutes. Uneventful recovery.

CASE V.—Mrs. V., aged forty-two years, entered the hospital January 13, 1899. Married fourteen years; no children; no miscarriages.

Symptoms.—Constant backache and pain in ovarian regions. No pain during menstruation, which is regular and lasts four days.

Diagnosis.—Fibroma uteri.

Operation, January 16, 1899. Abdominal hysterectomy, with removal of adnexa. Angiotribe used. There was a little oozing from one of the stumps, and it was thought wise to apply a catgut ligature. Patient recovered.

CASE VI.—Mrs. W., aged thirty years, entered the hospital January 23, 1899. Married eight years; no children; one miscarriage seven years ago. Was then curetted, and has ever since been more or less irregular.

Symptoms.—Profuse leucorrhea; constant backache.

Diagnosis.—Retrodisplacement, with adhesions.

Operation, February 20, 1899. Celiotomy with the angiotribe. Both tubes and ovaries were found diseased. Double salpingo-oophorectomy. Duration of operation, one hour. Recovery.

CASE VII.—Mrs. B., aged thirty-two years, admitted to the hospital March 1, 1899. Married six years; no children; no miscarriages. On February 2, 1899, began to flow, and was continuing to do so until she entered the hospital.

Symptoms.—A great deal of pain in the left iliac region.

Diagnosis.—Ectopic gestation of the right side.

Operation, March 5, 1899. Celiotomy. Ruptured tubo-ovarian pregnancy of the right side. Removal by the angiotribe. The appendix, which was found diseased and adherent to the right tube, was removed by the application of the electric clamp. Upon the removal of the electric clamp the stump was found gaping. This was immediately closed by catgut ligature and covered by serous membrane. Recovery uneventful.

CASE VIII.—Mrs. H., aged fifty-four years, admitted to the hospital February 24, 1899. Widow; no children; menopause at fifty. In September last had a flow of blood that lasted ten days. Has had several floodings since.

Diagnosis.—Small fibroid in uterine wall.

Operation, March 26, 1899. Vaginal hysterectomy, with removal of adnexa. Angiotribe used. Time, one hour. Recovery.

CASE IX.—Mrs. R., aged twenty-nine years, entered the hospital February 19, 1899. Married ten years; two children; youngest child seven years. Three miscarriages over seven years ago.

Symptoms.—Pain in the back and ovarian region since the birth of the first child. Menstruation somewhat irregular. February 4, 1899, flowed eight days profusely.

Diagnosis.—Tubo-ovarian disease of both sides.

Operation, March 6, 1899. Posterior vaginal section followed by the removal of the right ovary and tube with the angiotribe. Uneventful recovery.

CASE X.—Miss P., aged forty-nine years, entered the hospital March 6, 1899.

Symptoms.—Has flowed almost constantly for three months, quite profusely.

Diagnosis.—Fibroma uteri.

Operation, March 9, 1899. Vaginal hysterectomy, with removal of adnexa. In this case the vagina was excessively small, and there was naturally some difficulty in applying the angiotribe. The perineum was ruptured during the process, and this was at once repaired. The patient was out of bed in three weeks. Complete recovery.

CASE XI.—Mrs. B., aged nineteen years, entered the hospital March 11, 1899. Married four years; no children and no miscarriages. On December 30, 1898, the Alexander operation was performed. Complains of constant pain in the right ovarian region.

Diagnosis.—Diseased left ovary and tube.

Operation, March 13, 1899, by Dr. Broun, assistant surgeon. Posterior vaginal section, with removal of left ovary and tube. Angiotribe used. Recovery.

CASE XII.—Mrs. B., aged forty-three years, admitted to the hospital March 9, 1899. Married twenty-five years; five children and thirteen miscarriages. Nine years ago had an abscess of the right ovary removed. July, 1898, menstruation became profuse. Since November flow has been continuous.

Diagnosis.—Cyst of left broad ligament. Fibroid or carcinoma of the uterus.

Operation, March 16, 1899. Celiotomy, followed by removal of the uterus and left ovarian cyst by Dr. Broun. Angiotribe used. Adhesions were numerous and dense. Duration of operation, three hours. Recovery

CASE XIII.—Mrs. H., aged fifty-two years, entered the hospital February 24, 1899. Married twenty-three years; four miscarriages. Her father died of Bright's disease. After May, 1898, no flow for six months; then she flowed for

six days profusely. Several hemorrhages since then. Nausea and vomiting and dizziness. Lost thirty-eight pounds since November, 1898.

Diagnosis.—Fibroid of left horn of the uterus.

Operation, March 20, 1899. Vaginal hysterectomy, with removal of adnexum of the right side. Angiotribe used. Recovery.

CASE XIV.—Mrs. A., aged twenty-seven years, admitted to the hospital March 8, 1899. No children; no miscarriages. Menstruation irregular. The last continued three weeks.

Symptoms.—Pain in both ovarian regions.

Diagnosis.—Tubo-ovarian disease of both sides.

Operation, March 20, 1899. Vaginal hysterectomy, with removal of adnexa. Uterus hemisected. A great deal of pus escaped through the vaginal opening from rupture of tubo-ovarian abscess on the right side. Angiotribe applied to the lower or uterine segments of the broad ligament and the electric clamp to the upper. Peroxid of hydrogen, full strength, used, followed by normal salt solution for irrigation. Duration of operation, one hour and a quarter. Recovery.

CASE XV.—Mrs. R., aged thirty-one years, admitted to the hospital March 23, 1899. Married one year; no children; one miscarriage on July 9, 1898. Has had pains for many years. Has suffered for a number of years continously from menorrhagia.

Diagnosis.—Fibroma uteri.

Operation, March 27, 1899. Celiotomy. Supravaginal hysterectomy, with removal of adnexa. Angiotribe used. Ovarian stumps cauterized with electric knife. Peritoneum was stitched over the cervical stump with catgut. Time, one hour and a half. Recovery.

CASE XVI.—Mrs. N., aged thirty-one years, admitted March 15, 1899. Married ten years; two children; no miscarriages. Complains of great pain in the back and left ovarian region.

Diagnosis.—Diseased left ovary.

Operation, March 27, 1899. Posterior vaginal section, followed by removal of left ovary and tube with angiotribe. Bleeding from posterior vaginal wall, requiring suturing with catgut. Posterior opening closed with two layers of sutures. Time, one hour. Recovery.

CASE XVII.—Miss D., aged forty-five years, entered the hospital March 28, 1899. No children; menstruation began to be irregular ten years ago. Has had several hemorrhages during the last two years

Diagnosis.—Fibroid of uterus.

Operation, April 3, 1899. Vaginal hysterectomy. Angiotribe used. Tubes and ovaries were not removed. Perineum was lacerated in delivery of the fibroid, but immediately repaired. Time, one hour and a half. Recovery.

CASE XVIII.—Miss S., aged twenty-one years, admitted March 27, 1899. No children. Has been flowing every two weeks for the past year. Complains of pain in the right ovarian region.

Diagnosis.—Ovarian tumor of the right side.

Operation, April 3, 1899. Celiotomy. Removal of dermoid cyst of right ovary and tube. Time, forty-five minutes. This cyst was removed through a small abdominal incision by turning the patient upon the side, drawing the tumor by large hooks close to the abdominal incision, opening the tumor with a scalpel, and extracting all the contents of the tumor without allowing a drop to enter the abdominal cavity. The abdominal cavity was filled with normal salt solution. Recovery.

CASE XIX.—Miss H., aged twenty-one years, admitted to the hospital March 29, 1899. Pain in both sides of the abdomen; severe on the left. Enlargement of the abdomen noticed first in September last Flowing every two weeks since January.

Diagnosis.—Multilocular ovarian cyst of right side.

Operation, April 3, 1899. Cyst removed with angiotribe. The cyst was opened with patient lying upon the side. Pedicle was twisted before application of angiotribe, to make it less bulky. Time, one hour and a half. Recovery.

CASE XX.—Mrs. M., aged twenty-four years, admitted April 3, 1899. Married thirteen months; no children; one miscarriage. Irregular menstruation since marriage. No pain.

Diagnosis.—Ovarian tumor.

Operation, April 10, 1899. Celiotomy. Removal of broad ligament cyst from each side with ovaries and tubes. Both cysts were enucleated and the angiotribe applied to both broad ligaments. Recovery.

CASE XXI.—Mrs. D., aged fifty-four years, entered the hospital April 10, 1899. Widow twenty-seven years; two children, twenty five and twenty-seven years of age; no miscarriage. Fifteen years ago noticed a "lump" in the left side. Had no pain but pressure on bladder and rectum. Menstruation every three weeks, and scanty.

Diagnosis.—Fibroma uteri.

Operation, April 13, 1899. Celiotomy. Supravaginal hysterectomy, with removal of adnexa. Angiotribe used. Several bleeding points about the cervix were secured with catgut. Bladder sewed over the stump of the cervix with catgut. Recovery.

CASE XXII.—Miss R., aged forty-four year, admitted April 11, 1899. No children. Menstruation has been regular. Has had constant pain in the right side. Says a mass was discovered in the right side, low down, eighteen years previously, the size of a hen's egg.

Diagnosis.—Uterine fibroid.

Operation, April 17, 1899. Celiotomy. Supravaginal hysterectomy, with removal of adnexa. Dermoid cyst of right side. Later, sewed over the stump of the cervix. Angiotribe used. One or two oozing points were tied with fine catgut. Time, one hour and a half. Recovery.

CASE XXIII.—Mrs. McA., aged thirty years, entered the hospital April 4, 1899. Married ten years; no children; no miscarriages. Menstruation irregular since December, 1898, flowing every two

or three weeks. Constant pain in back. Mucopurulent discharge.

Diagnosis.—Retrodisplaced, adherent uterus, with diseased adnexa.

Operation, April 24, 1899. Celiotomy. Vaginal hysterectomy, with removal of adnexa. Angiotribe used. Time, forty minutes. Recovery.

CASE XXIV.—Mrs. F., aged forty years, admitted April 4, 1898. Married ten years; two children; no miscarriages. Pain in the pelvis and back. Menstruation regular.

Diagnosis. — Double pyosalpinx, with septic uterus.

Operation, April 24, 1899. Vaginal hysterectomy, with removal of adnexa by angiotribe. Few small, oozing points tied with fine catgut. Time, one hour. Recovery.

CASE XXV.—Mrs. W., aged thirty-seven years, admitted to the hospital April 26, 1899. Married seventeen years; no children; no miscarriages. Mass on left side first noticed six years ago. Complains of pain in the left side. Mucopurulent discharge after menstruation. Menstruation regular.

Diagnosis.—Fibroma uteri.

Operation, May 1, 1899. Celiotomy. Hysterectomy, with removal of adnexa. Angiotribe used. Bladder sewed over stump with catgut. Recovery.

CASE XXVI.—Miss K., aged fifty years, admitted April 25, 1899. No children.

Symptoms.—Had been flowing profusely for five years.

Diagnosis.—Multiple uterine fibroids.

Operation, May 15, 1899. Celiotomy. Hysterectomy, with removal of adnexa. Dermoid cyst of right ovary. Angiotribe used. Recovery.

It is not strange, when we consider the really startling character of this innovation upon what may be called "well-established principles of surgery," that there should be aggressive opposition to it and a hesitancy to make use of it by some of the very best men. In reviewing the arguments pro and con it will be well to take up first the objections to the instrument itself and the method, and afterward the advantages in its favor.

The Objections.—What I have to say here is practically in answer to questions that have been constantly propounded to me at my clinic at the Woman's Hospital.

Objection is brought to the weight and apparent clumsiness of the angiotribe. My experience has taught me that arguments on this score have no force. It requires but a short experience to convince one that the instrument can be used with accuracy and dexterity.

It has been objected to theoretically, by those who have not used it, that it is inapplicable in cases of small vaginæ. In several of my cases of vaginal hysterectomy the vagina was very small, and I feel that I can state with positiveness that it would be difficult to find a case in which the operation of vaginal hysterectomy was indicated in which the instrument could not be used. In several of the cases reported here the perineum was torn but was immediately repaired and healed.

On the other hand, I can imagine a case of uterine fibroid in which it would be next to impossible to use the instrument after abdominal section. But it must be remembered that universal application is not claimed for it, and it should not, then, for that reason be condemned *in toto.* To my mind it is applicable to the large majority of cases.

Advantages of the Angiotribe.—In order to bring out clearly the salient points of advantage over other methods, it is only necessary to place them alongside of each other in comparison.

Let us begin our comparison with the ligature, of whatever material. I am, of course, arguing on the basis of equal familiarity with all methods. In vaginal hysterectomy the angiotribe is applied with great ease, while there is more or less difficulty with the ligature, and especially in cases in which the vagina is small. The angiotribe leaves a small, flat, ribbon like stump, which in a few days sloughs away, with very little discharge and odor. The stump left by the ligature is necessarily quite large and often requires weeks to slough away, often giving rise to a secondary sepsis by blocking the way for drainage. The objection to the catgut ligature is, of course, not as great as that to silk. The former will dissolve and come away, while the latter often has to be cut away after weeks. I am happy to believe that there are but few surgeons who still use the silk ligature, either in vaginal or abdominal work. It is best relegated to oblivion.

In comparison with the clamp, left *in situ* for from thirty-six to forty-eight hours, the angiotribe stands out preeminent. With several clamps on the uterine and ovarian stumps, pressing and dragging upon the intrapelvic nerves and projecting from the vagina, to be pressed against and jarred, the torture is extreme. One or two clamps on ovarian stumps do not cause excessive pain, and can be endured. Beyond this the stump left from the pressure of the ordinary compression forceps is larger, and takes a longer time to slough away.

In comparison with the electric clamp I can see no advantage in favor of the angiotribe save that of less expense and less difficulty in application. The results from each are about the same. After the use of each there is comparatively no pain, little sloughing, and the convalescence is very rapid. Before the end of the third week the vaginal vault is, as a usual thing, entirely closed.

Though I consider the angiotribe a step in advance

of the electric clamp, I have come to the conclusion that it is better and safer to apply the latter to the upper or ovarian portion of the broad ligament when there are pus-tubes. It so thoroughly shuts up the lymphatics and renders the stump so aseptic that there is no danger of septic absorption or reinfection. I have, however, used the angiotribe frequently in just such cases, and with success, as appears in my report of cases. I merely mean that I deem the electric clamp safer as regards a secondary infection. This instrument, as well as the other high compression forceps of Doyen and Thumin, were designed particularly and chiefly for vaginal work, and have been but little used for hemostasis after celiotomy on the other side of the ocean. I have found it just as serviceable and just as satisfactory in my abdominal work, and am making constant use of it. Here it compares as favorably with all other methods as it does in operations through the vagina.

Many who look unfavorably upon this method for abdominal work have supposed that the tissues would be so thoroughly crushed that necrosis and sloughing would necessarily be the result. In fact it is, I repeat, not a crushing, but a compression. All these tissues are revitalized as after the use of the electric clamp. Thumin has taken a specimen of the compressed tissue, and, after hardening it in alcohol, examined it under the microscope. He found the tissues not crushed, their integrity not destroyed, but merely compressed to a paper-like mass (see *Centralblatt für Gynäkologie*, February 4, 1899).

Precautions.—In the course of my experience with the instrument and study of its effects and results there are many points that I have noticed that appear to be worthy of remembrance, and they are answers to questions that any one would naturally ask in watching the use of the instrument.

It is found to be most important to manipulate the stumps just as little as possible after removal of the angiotribe, for fear of disturbing the clots that are forming closer and closer attachments in the blood-vessels.

It is advised to apply the compression at right angles to the course of the vessels. The clots form more securely if this is done.

The instrument should not be applied too near the outer extremity of the broad ligaments, where the pressure upon the arteries is the greatest. It is better to apply the instrument with the patient in the horizontal position, as when the table is moved suddenly from the Trendelenburg to the horizontal, an immense pressure is brought to bear upon the clots in the severed arteries in the stumps, and there is thereby greater likelihood of hemorrhage. I observed this after using the Thumin instrument in one case, and had to resort to catgut ligatures. If in any case the Trendelenburg position has to be maintained to facilitate the application of the instrument, the resumption of the horizontal position should be only gradual, that there may be no sudden increase of pressure.

It is important that the instrument should be carefully and accurately made. If the details I have mentioned above are not carefully carried out in its manufacture failure with it is likely to occur.

I believe I am responsible to some degree for the failure of one of my confrères at the Woman's Hospital, in which the abdomen had to be opened for hemorrhage. Instead of the French instrument, he used the first copy made by Stohlmann, Pfarre & Co., and which I condemned immediately thereafter for its imperfect construction. It was clearly the cause of his failure.

I have made use of Thumin's instrument in a few cases only, and am conscious that my experience with it is not adequate enough to decide upon its merits. I feel quite positive, however, that it does not afford as much pressure as the angiotribe of Tuffier; but I am not persuaded that a pressure of three thousand pounds, which Tuffier claims for his instrument, is really necessary. I have seen good and successful work done by an instrument invented by my associate, Dr. J. D. Bissell, which I am sure produces far less pressure. I have been in the habit for many years of cauterizing the stump of the ovarian section of the broad ligament, both as an antiseptic measure and to prevent subsequent adhesions. I still continue to apply it after the use of the angiotribe, for the same purposes and not as a hemostatic precaution, though it may add something to the opposing strength of the clots in the vessels.

There is one point worthy of careful attention: I have seen no case of crural phlebitis follow the use of the angiotribe. I have been led to attribute this calamity to catgut in some of my cases. For this reason I have abandoned the use of the larger varieties, as we can never be sure that the sterilization has reached their center, and now make use of the very small varieties sterilized by koumol. They are usually very strong, bearing a great deal of tension.

There appears to be no danger of disturbing the clots in the arteries by the ordinary movements necessary in transporting the patient from the operating-table to her bed; and even excessive and prolonged vomiting seems to have no deleterious effect.

There is a marked contrast between the patients operated upon in this way and those upon whom the clamp has been used in the first twenty-four hours.

The almost total absence of pain and the absence of almost every indication that a severe operation has been performed, is the rule after the use of the angiotribe.

Conclusion.—Like anything radically new and startling as is this method, it is natural, as I have said, that it should meet a great deal of defiant antagonism and opposition. There are now, however, on record enough successful cases, both here and abroad, to answer triumphantly all adverse criticism. Landau of Berlin reports more than seventy cases; Thumin, his assistant, nearly as many, both from the use of the Thumin instrument. Tuffier of Paris reported twenty-seven, but this is but a small proportion of his total number up to the present date. There are others also in Paris who are using the angiotribe successfully.

In this country the method is now being extensively tried and good results reported. In fact, the favorable impression already made is spreading everywhere. It is difficult even to supply the instruments fast enough. I believe it is a method that will abide for all time, as it is based on solid and scientific principles.

THERAPEUTIC NOTES.

The Use of Nitrate of Silver in Eczema.—JUGEAT (*Gaz. Heb. de Med. et de Chir.*, July 30, 1899), who has made an especial study of the use of nitrate of silver in the treatment of different forms of eczema, finds that it is indicated in all weeping eczemas whether subacute or chronic, and especially in those which have an external origin. It is particularly useful in eczema of the hands It fails in acute eczema especially if complicated by secondary infection, in squamous eczema, and in eczema of the scalp. He does not recommend its use in children. It works well in producing an inflammatory reaction in torpid lesions but its chief value is in the treatment of weeping eczema. In this stage, thanks to its astringent action, it causes contraction of the vessels, tones up the skin, dries the tissues, and so hastens the restoration to the normal condition. When the origin of the eczema is evidently only internal, the effects of the nitrate of silver are unreliable, so that it is necessary to institute at the same time an appropriate internal treatment. If secondary infections are present the treatment should be at first directed to their relief and afterward the nitrate of silver may be applied. Crusts should be removed so that the remedy may act directly upon the tissues. Solutions of different strengths are used according to circumstances, varying from 1 per cent. to 20 per cent. In order to prepare the surface for the nitrate of silver, it is well to apply compresses wet with sterilized water and covered with rubber tissue for twenty-four or forty-eight hours. These should be renewed morning and night during this time. Crusts may be rubbed with olive oil and removed at once. Bits of absorbent cotton, dipped in the nitrate-of-silver solution and held in a pair of forceps, are used to make the cauterizations. If pain is likely to be great or the patient is timid it is well to make a previous application of cocain, It is possible to hasten reduction of the silver, by rolling a pencil of pure zinc over the surface. Immediately afterward the zinc should be cleaned with sand-paper in order to preserve it. The zinc accentuates the action of the nitrate of silver. It is especially useful in ulcers, mucous plaques, and flat condylomata. After a few moments compresses wet with sterilized water should be applied and covered with rubber tissue. This is necessary to prevent the formation of crusts. The moist dressing should be renewed daily while the applications of nitrate are to be made every second day or, in some cases, every third day, although forty-eight hours is generally the best interval. On alternate days, instead of a reapplication of the moist dressing, a salve consisting of equal parts of simple lead plaster and vaselin may be used. The nitrate treatment is to be continued until all signs of inflammation disappear, after which an ointment of zinc oxid is indicated. If at any time the cauterizing effect appears inefficient, the strength of the solution should be progressively increased. It requires considerable judgment to know when to discontinue the application of the nitrate. As soon as the new epidermis appears, the wet dressings should be given up and the ointment of oxid of zinc should be applied unless one prefers to make use of the following formula:

℞	Zinci oxidi Amyli	aa	ʒiv
	Vaselini		℥j.

Bathing is bad and the use of soap should be absolutely forbidden. The skin is sufficiently cleansed by the moist compresses and at the time the dressings are changed.

Removal of Tapeworm by Injection of Morphin Directly into the Parasite.—KIME (*Medicine*, September, 1899) says that failure to secure the head of a tapeworm is often due to the fact that the parasite is carried into the lower bowel and has time to re-attach itself before its body is expelled. Beyond the sacrifice of a few feet of its lower end it is as well off as before. His practice therefore is to ligate the protruding part of the worm about three inches from the anus of the patient, and then to inject half a grain of morphin directly into the substance of the worm. After a short time a large injection of water is given the patient and the upper portion of the worm will pass out entirely motionless and apparently dead. Most tapeworms have a pair of longitudinal vessels extending from one extremity to the other, so that a substance injected into any segment will reach every portion of the parasite. Kime says that an elaborate preparatory treatment of the patient is quite unnecessary. His patients do not eat breakfast and about nine o'clock receive a dose of infusion of pomegranate or, what is far better, of pelleterin tannate with one or two drops of croton oil. The patient should remain in bed under the personal observation of the physician for two or three hours until movements of the bowels occur. If the worm passes, well and good. If only a part protrudes, morphin should be injected into the worm.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, NOVEMBER 11, 1899.

THE TREATMENT OF TYPHOID FEVER.

THE recent discussion on typhoid fever before the New York State Medical Association, of which we publish certain of the papers this week, and others in abstract, while it does not develop anything startingly new, serves to render more definite our present knowledge of what has been well called "the great endemic disease of the present epoch of our civilization." Dr. Osler's paper drives home two very practical and valuable lessons, to the demonstration of which so much of his time in recent years has been devoted. His insistence on the fact that typhoid without abdominal symptoms is much more common than is thought, is at length having its influence in a more careful attention to diagnosis. His doctrine of the non-occurrence of typhoid fever and malaria simultaneously in the same patient, and its corollary that continuous fever, especially at the North, is practically always typhoid, are gradually being recognized as the most distinct advance in epidemiology in our day.

The treatment of typhoid is becoming ever more and more hopeful. Hospital death-rates beyond ten per cent. are now very unusual. Specific treatment of the disease is in no wise accountable for this. Much has been said of the influence of intestinal antiseptics, so-called, in aborting the disease during the first ten days, but at this time, as is well known, the typhoid bacilli that are doing their fatal work, are not in the intestinal lumen, but in the lymph passages of the intestinal walls, and antiseptics within the gut absolutely fail to reach them. The lessened death-rate has come from symptomatic treatment, which is steadily being brought into practical shape by contributions of the most varied kind from sources surgical and medical.

At present about one-third of the deaths from typhoid fever are due to intestinal perforation. One-fourth of these at least, even under present conditions, can be saved by surgical intervention. The statistics of post-perforative operation are constantly improving. It is probable that within a year or two thirty-three per cent. or more of these cases will be saved. The possibility, suggested by one authority on the subject, of recognizing with a certain degree of assurance a preperforative stage opens up a vista of still more notable improvement in typhoid mortality. About one-fifth of the present deaths from typhoid fever is the result of hemorrhage. Undoubtedly here, too, surgery will come in effectually to aid medical treatment, which is practically helpless in severe cases.

The remainder of the deaths from typhoid occur from complications and exhaustion. Many of the complications are undoubtedly due to the long febrile condition of the patient and to his insufficient nutrition. Of special interest, because it seems to promise a distinct reduction in the mortality from this cause, is Dr. Shattuck's plea for a more liberal diet than has been given heretofore. Dr. Shattuck allows his patients in the wards of the Massachusetts General Hospital what is called the soft-food diet. It includes soft-boiled or raw eggs, finely minced meat, the soft parts of raw oysters, soft puddings, soft toast without crust, wine jelly, bread without crust and milk, or crackers and milk. With this diet he has found during five years of experience no special tendency to any of the complications that might supposedly be looked for from a mixed non-liquid diet. On the contrary, the general condition of the patients has been better, complications

and relapses have been diminished, and the death-rate is less. These conclusions need confirmation from other observers, but the outlook for a distinct advance along this line is most promising.

What is needed while we wait for a specific biologic remedy for typhoid, which may not come, is more accurate diagnosis and more acute continuous observation that will anticipate the occurrence of complications. The Widal test, positive, often, only after the fever has subsided in abortive cases, will restrict still more than it has done in recent years the number of cases of so-called continuous fever that are at present suspiciously indefinite. Proper treatment and care here will lessen the number of deaths from complications, for perforation and fatal hemorrhage are not unknown in these short cases even after all symptoms have disappeared. Despite all we have thought to have accomplished in recent years, however, in reducing the mortality from typhoid fever, the statistics of a large institution like the Massachusetts General Hospital, even when all allowances are made, show no improvement in this respect during the last decade of the present half-century over that of its first decade.

CAN WHITE MEN LIVE IN THE TROPICS?

A WRITER in the *British Medical Journal* is much distressed because Benjamin Kidd, the author of "Social Evolution," has recently published a series of articles attempting to show that it is impossible for white men to become acclimatized in the tropics. So sure is Kidd of his position in the matter that he predicts that "in the end there can hardly be room for any important difference of opinion." He also speaks of the innate unnaturalness of every attempt to reverse by any effort within human range the long slow process of evolution which has produced such a profound dividing line between the inhabitants of the tropics and those of the temperate regions." This is decidedly dogmatic and, moreover, his pessimistic opinions are quite at variance with evidence brought before the Royal Geographical Society last April by Dr. Sambon to show that the causes of disease, deterioration, and deaths in the tropics are due to pathogenic germs, which have their limited and peculiar geographical areas, and differ greatly in the various tropical regions. If heat were the difficulty in the way, of course acclimatization would be altogether hopeless. "There appear to be good reasons, however, to believe that the real enemy is the microbe; and, if so, we may hope to fight against it in the tropics as successfully as has already been done in the temperate zones by sanitation and the gradual acquisition of immunity. This doctrine is strongly supported by some of the highest authorities in tropical pathology."

Dr. Manson, who has written a book upon this subject, and Dr. Rho, director of the Medical Department of the Italian Navy, are also thorough believers in the possibility of tropical acclimatization. "The death-rate of European troops in the tropics, which used to be from 100 to 129 per 1000, is now as low as 12 per 1000 in India. In Trinidad and Barbadoes the sickness and mortality among European soldiers are actually less than at home. The Boers are the finest men in South Africa. The Portuguese under unfavorable social conditions have been totally absorbed in India, but in Guiana and Brazil they have thriven remarkably well. Spaniards and Italians have become completely acclimatized in the tropical parts of both North and South America. The death-rate of Spaniards at Cuba is less than in Spain, and their birth-rate is greater." Unfortunately, the question has heretofore been discussed mostly by geographers, statesmen and journalists. Now that the attention of medical men is turned to it there is every reason to believe that the conditions for successful life in hot climates will become more thoroughly understood. It is to the microbe of the tropics rather than to the heat that attention should be directed. The different experiences of the men in ships and the men on land at Santiago, proved this beyond question. We have annexed leprosy in Hawaii, yellow fever in Cuba. If we expect to do justice by the tropical islands which have so suddenly come into our possession we must learn to live on them. This is the immediate problem of the medical department of the government.

ECHOES AND NEWS.

Rabies Subsiding about Buffalo.—State Agent M. Quigley, of Buffalo, stated on November 1st, that the cases of rabies in Erie and Niagara counties are being steadily stamped out. He accords considerable praise to the

police of the city of Buffalo for their effective work in capturing and muzzling rabetic dogs.

The Loomis Sanitarium Fire.—Although the administration building of the Loomis Sanitarium was totally destroyed by fire on October 14th, the work of tne Institution has gone on uninterruptedly, the Casino Building having been temporarily adapted to the purposes of administration. It is expected that a new administration building will be completed within a few months. None of the patients' cottages were at all injured by the fire.

Board of Managers Defied.—On October 31st the Board of Managers of the New Jersey Custodial Asylum passed a resolution requesting the resignation of Dr. M. Alice Brownell, the asylum's resident physician. It was declared that there was friction between the Superintendent, C. W. Winspear, and Dr. Brownell. The doctor, who has held her present position for eight years, declares she will not resign until forced to do so by a higher authority than the Board of Managers.

The Rules and Regulations of the Thirteenth International Congress of Medicine to be held in Paris, 2-9 August, 1900.—All doctors of medicine may become members of this Congress by making the proper application and paying Five Dollars. The Secretary-General in Paris has instructed the American National Committee to receive the applications of American physicians and to return a receipt for the amounts sent. These applications and the money are then to be forwarded to Paris, and in due time cards of admission to the Congress will be distributed to all subscribers. Members desiring to present papers, will forward them to the Secretary of the Section to which they belong, for each Sectional Committee reserves the right of drawing up its own working program.

The Sanitary Condition of Puerto Rico. — The Board of Health of Puerto Rico notified the Secretary of the Treasury, under date of October 23d, that there was at that time not a single case of smallpox on the island. Nine months ago a serious epidemic was threatened and the disease prevailed over the whole island. Since then 800,000 vaccinations have been performed. It is possible to stamp out smallpox in Spanish-American countries. There has not been a case of yellow fever all summer. No serious diseases have followed the hurricane of August 8th. The process of vaccinating practically the entire population of Puerto Rico is graphically described in a communication we have just received from George G. Groff, M.D., of Puerto Rico. It will appear shortly in our columns.

Dr. Edward F. Brush of Mount Vernon is known generally to the profession as the quiet and unassuming producer of pure milk for babies and invalids, and no one except perhaps his most intimate friends suspected him of delighting in chasing the deer or facing the wild beasts of the forest. Rumor has it, however, that he has just returned from a hunting expedition in Northern Canada. At the head of the Ottawa Lake the doctor shot an immense moose, which stood seven feet two inches in height. He weighed 1500 pounds, and was one of the largest animals of his kind on the continent. The head is an unusually fine one, the antlers measuring fifty-eight inches from tip to tip. Dr. Brush has decided to present the head, when mounted, to the Academy of Medicine as a decoration for the banquet hall.

Death of Dr. Woodbridge.—Dr. Luther Dana Woodbridge, professor of anatomy and physiology since 1884 in Williams College, died suddenly on November 3d, at his home in Williamstown. He was but forty-nine years old. Graduated from Williams College in 1872, he became an instructor in Robert College at Constantinople for a year, after which he returned to Williams College to take the position of instructor of gymnastics. Shortly afterward he went to the New York College of Physicians and Surgeons, and after his graduation and an interneship in Roosevelt Hospital he studied abroad. Besides his work at Williams College he lectured in the Boston College of Physicians and Surgeons on "The Nervous System and Its Diseases." He was widely known in Berkshire County for his public spirit and many deeds of kindness and charity.

Johns Hopkins' Exhibit.—The exhibit of the Johns Hopkins University, including that of the Medical School, for the Paris Exhibition, is being prepared under the direction of Mr. Nicholas Murray, librarian of the university. This exhibit will form a part of the educational exhibit of the United States. The university has been asked to send articles relating to its scientific publications; to its work in the physical laboratory as illustrated by the spectrum maps, and the celebrated concave gratings of Professor Rowland; to work in geology as shown by the surveys; and to work in the biological sciences, especially in anatomy, physiology, and pathology. In this last division will be included the Medical School's exhibit. It will consist of plates illustrating the work done in the laboratory courses and of publications reporting the school's original investigations. The *Johns Hopkins Hospital Reports*, now in the eighth volume, the *Hospital Bulletin*, now in the tenth volume and the *Journal of Experimental Medicine*, edited by Dr. William H. Welch, will be exhibited.

The Dangers from Infectious Diseases in Public Libraries.—The danger of infectious diseases being acquired through the books of public libraries, especially circulating libraries, has been under consideration for a number of years. The recent report of the deaths from consumption of several clerks who had been engaged in sorting old files of books and MSS., is a practical demonstration that forces upon the guardians of public libraries grave responsibilities and additional duties. Experiments have been made looking to the discovery of the best method of disinfecting books; a method that would be efficient, and at the same time not injurious to the volumes subjected to the disinfectant. The MEDICAL NEWS August 8, 1886, published a series of experiments showing that formalin was the agent par excellence for use in this work. It neither discolors articles subjected to its action

nor does it render them more liable to the corrosive action of time. On the other hand, it renders articles subjected to treatment entirely clean. The time has come, therefore, for all public libraries to have attached to them a disinfecting plant where all books, pamphlets, magazines, or documents that have been taken from the library may be thoroughly disinfected before being returned to their shelves.

The Probable Discovery of the Active Principles of Diphtheria Antitoxin.—Dr. W. H. Park present for Mr. J. P. Atkinson, assistant chemist in the Bacteriological Laboratories, Department of Health, City of New York, a solution of five different globulin precipitates obtained from diphtheria antitoxic horse-serum by means of heat and saturation of a solution of globulin by means of sodium chlorid. The solution of antitoxic horse-serum is first saturated with magnesium sulphate and the globulin thus precipitated. This globulin contains all of the antitoxin. The globulin is then dissolved in water at the room temperature and saturated with sodium chlorid. A precipitate of globulin occurs. When the temperature is gradually raised to 72° C. four more precipitates of globulin occur. Each of the precipitates has antitoxic properties, and together they contain all the antitoxin. The interest in these experiments lies first, in the method of obtaining the five precipitates from the globulin solution by saturation with sodium chlorid and moderate increase of temperature; second, in bringing antitoxin and globulin so close together that it almost seems necessary to consider antitoxin a globulin, and third the opportunity to use these antitoxic precipitates separately in the treatment of diphtheria and thus, in all probability, do away with the deleterious results, such as rashes, which now occasionally follow its use.

The Yellow Fever Situation toward the end of last week and the beginning of this was not so favorable as before. New cases were occurring at Miami in Florida and the death-rate was above the average. From Key West authentic reports were very encouraging. Reports to Surgeon-General Wyman of the Marine Hospital Service indicate that the yellow-fever epidemic which has prevailed at Key West for the past six weeks has about run its course. Only one or two new cases a day are now reported, and the messages say that a good breeze has been blowing for the past two weeks, which, it is believed, has had a beneficial influence. The reports also are to the effect that the detention hospital at Dry Tortugas has been closed because of the absence of patients. From Havana the reports for October show an excellent state of affairs in the matter of yellow fever for this season of the year. The official report is very satisfactory. The climatic conditions that existed during the latter part of September having unexpectedly continued throughout October, Surgeon Major Davis hopes that the fear regarding yellow fever will not be realized. During October there were sixty-three cases under treatment belonging to that month, with twelve cases which held over from September. Of this total of seventy-five, twenty-six recovered, twenty-five died, and twenty-four are still in the hospital. Thirty-six of the patients were Spaniards, of whom fifteen died, and twenty were Americans, of whom eight died.

The Plague Situation is in many respects constantly growing worse and becoming more threatening for the West. Alexandria is free, Hong Kong and the China Coast are announced as practically rid of the disease, in India the conditions are all improved, the only sad feature being the report of more deaths of Europeans at Poona, where, however, the disease seems to be gradually disappearing. At Oporto the condition of things is becoming more and more alarming. It seems clearly settled now that the suspicious cases reported from Asuncion in Paraguay were genuine cases of plague. Since then, occasional cases have occurred, and the authorities are not very hopeful of getting rid of the disease soon. Last week suspicious cases occurred at Santos, the port of San Paulo, south of Rio Janeiro, on the Brazilian Coast. It was definitely announced at the beginning of this week that at least twelve of these were cases of true plague. Further cases, making the number to date about twenty, have developed. The disease is of a mild type and so far no deaths are reported. President McKinley has directed the detail of Passed-Assistant Surgeon James A. Nydegger and Assistant Surgeon John F. Anderson of the Marine Hospital Service to serve in the offices of the United States Consul at Cadiz and the United States Consul General at Barcelona, Spain, respectively. The officers will assist the Consuls who are now enforcing the quarantine regulations of the Treasury Department to be observed at foreign ports by vessels bound for the United States, and will sign the bills of health with the Consuls. From these two ports these officers will have surveillance over emigration from Spain and Portugal. Practically all the emigration from Portugal, where plague prevails in Oporto, comes through Spanish ports.

MEDICAL MATTERS IN NEW YORK.

SMOKE ORDINANCE AMENDED—YELLOW FEVER ON A TRANSPORT—DEATH OF DRS. DRURY AND PARDEE—SURGEON OF ST. MARY'S ACCUSED—ALIVE IN A MORGUE BOX—REPORT OF MONTEFIORE HOME.

ON November 1st the Board of Health amended Section 134 of the Sanitary Code so that it now provides that no owner, lessee, or tenant shall cause or allow the discharge or escape of any smoke, cinders, gas, or offensive odors. Before the section was amended it simply declared that the offense should not be committed, but did not fix the responsibility. The section was further amended by striking out the conditional clause, "unless by special permit of the Board of Health," after the clause prohibiting the use of furnaces that do not consume their own smoke and gases.

The transport "Kilpatrick" arrived on November 4th from Havana and Matanzas, having on board discharged and furloughed soldiers, "indigent Americans," and military prisoners to the number of eighty-five, all told. On October 31st, when one day out from Havana, George

W. Powell, a discharged soldier, fell ill of yellow fever. He died on November 1st, and was buried at sea. The transport was disinfected, and her passengers were held at Quarantine until November 6th.

Dr. Alfred T. Drury, one of Brooklyn's oldest physicians, died on November 1st. He was born in Hull, England, and was sixty-nine years old. In 1859 he came to this country, and was graduated from the Castletown (Vermont) Medical College four years after. He came immediately thereafter to Brooklyn, where he practised until his death. Dr. Charles I. Pardee died suddenly on November 3d, at his home, No. 6 East Forty-third street. Dr. Pardee's special work was in eye and ear diseases. He was Dean of the New York University Medical School for many years. He was a member of the Union League, the New York Yacht and the Lotus Clubs. He was vice-president of the latter for eight years between 1872 and 1888. The New England Society and the Loyal Legion also claimed him as a member.

Dr. John Griffin, Chairman of the Nautical School Committee of the Board of Education, has begun an investigation of the complaint made recently to the committee by Mr. John C. Cruger of Brooklyn concerning his son's treatment while a pupil in the schoolship "St. Mary's." According to their complaint, Dr. Smart, the ship's surgeon, neglected to give young Cruger proper treatment when he reported sick. Typhoid fever developed. It would seem Dr. Smart did not make an early diagnosis. This is unfortunate, but not extraordinary.

Life and death played a game of "freeze out" during the twenty-four hours ending at 7 P.M. on November 1st; death won. At 10 P.M., October 31st, Mrs. Galioto gave birth prematurely—at the seventh months—to twins. The midwife in attendance, Rosa Genovese, of 33 Stanton street pronounced them stillborn. The unhappy father, at 5 o'clock next morning, wrapped them up in paper and put them in a little box, which he nailed securely, and which he then took to the morgue. Keeper Fane received the box and deposited it in the morgue refrigerator which is set apart for the infant dead. At about nine o'clock Fane was writing and Morgue Policeman Kip was smoking before the fire, "taking it easy" in the graceful manner characteristic of "the finest." Near by slept the morgue cat. Nothing more than the scratching of Keeper Fane's pen disturbed this serene atmosphere. Presently there came a weird sound from down the hallway, in the direction of the rotunda, where, in drawer upon drawer the dead "have lain them down in their last sleep." It seemed like the mewing of a kitten. Keeper Fane dropped his pen and looked aghast. Policeman Kip instinctively grabbed his nightstick. The cat became suddenly afflicted with opisthotonos, her hairs bristled, and she glared toward the rotunda. With blanched faces Fane and Kip reached the refrigerator, whence the sound emanated. It came from the box left by Galioto. This was hastily broken open, and one of the twins was found kicking and crying with all the force in its little body. Bellevue was at once telephoned, and Dr. Stern came and took the infant to the hospital. Despite all efforts the infant gave up the ghost for good and all at 7 P.M., November 1st. It had been for three hours in the refrigerator at a temperature of 25° F.

At the annual meeting of the Directors of the Montefiore Home on November 1st the annual report was presented as follows: The receipts were $77,086.30, and the expenses $34,872.22, leaving a balance of $42,214.08. During the year 577 patients received treatment, and only eight were "pay" patients. At the close of the fiscal year there were 281 inmates.

MEDICAL MATTERS IN PHILADELPHIA.

MR. FREDERICK E. IVES ON COLOR PHOTOGRAPHY—ANOTHER INSTANCE OF EDDYISM—UNUSUAL DEMANDS ON THE MEDICAL INSPECTORS OF THE HEALTH BUREAU—A RECEPTION TO DRS. FLEXNER AND CLARKE—DR. TURNBULL'S RESIGNATION FROM THE JEFFERSON HOSPITAL STAFF.

PHILADELPHIA, November 6, 1899.

AT the last meeting of the College of Physicians of Philadelphia, held November 1st, Mr. Frederick E. Ives gave an interesting demonstration of his system of Color Photography, and of its application in the field of practical medicine. Mr. Ives first gave a brief explanation of the principles involved in the process, showing the wide range of tints which could be derived from the three single colors upon which his system was based, by simultaneously projecting upon a screen three photographs of the same object, side by side, one colored red, another green, and another blue, and then by gradually superimposing and blending these three colors, obtaining finally a picture of the object in its natural colors, against a perfectly white background. Mr. Ives also showed an instrument, known as the kroemskoep, devised for examining photographs of objects in their natural colors, as one would examine a picture through a stereoscope. The kroemskoep consisted of an enclosed box, containing three plates of red, blue, and green glass, respectively, and two colored glass reflectors, so arranged that, by the aid of reflected light and a pair of stereoscopic eye-pieces the three colors become blended before the eye of the observer at a point opposite the center of the object to be examined. Thus, one is enabled to view the object in its natural tints, standing out in bold relief against a colorless background. The possibilities of Mr. Ives' method of color photography for teaching purposes, especially in the fields of pathology and surgery, were emphasized by Dr. W. W. Keen, who dwelt upon the value of the invention in enabling the student to observe tumor sections, for instance, just as they appear in the true specimen. Such conditions as jaundice, and the various kinds of cutaneous eruptions of the exanthemata and of skin diseases were also capable of exact reproduction by this apparatus. Dr. Keen expressed the opinion that, in the future, hospitals would be equipped with apparatus for the photography of various lesions after this method.

Another instance of the fatal results of too much Eddyism is illustrated by the death, at the end of the present week, of a prominent and wealthy resident of Germantown, whose story of unbelief in physicians and trust in

Christian Science is the principal topic of current discussion in the public prints of this city. The deceased, a life-long trifler with his health, had, it is understood, been under the "treatment" of various exponents of the Christian Science cult, including, as a last resort, a visitation from that arch-priestess of the sect, Mrs. Mary Baker G. Eddy, herself, who was summoned post-haste from Boston, in lieu of the more rational procedure of consulting a specialist in tuberculosis, for phthisis was the sufferer's disease, and he was sorely affected. But in spite of Mrs. Eddy's "influence" with the Power above, and so forth, and in spite of her lesser disciples' prayers and "readings," the patient grew worse, grew moribund, and finally died. That the deceased experienced intermittent periods of blacksliding from the "faith" appears to be conclusive from the two facts that he had at various times during the past summer sought the advice of a physician of high standing in this city, and that he is reported to have repudiated his Bostonese advisers as visions of the hereafter began to become more vivid; but to no avail, for he died, attended by one of the cult, a resident of this city, although a physician was called in, at the last moment, too late to be of service.

In view of the unusual prevalence of diphtheria and scarlet fever in this city at the present time, the work of the City Medical Inspectors becomes a matter of prime importance to the health of the city, and of timely interest to the general public. Other cities, as a rule, appreciate the work of these sanitary officers, and are willing to provide means for the intelligent pursuance of their labors, but Philadelphia, thanks to the present Administration's parsimoniousness toward this needful and practical branch of the municipal sanitary service, has not only reduced the number of Inspectors from fifteen to eleven, but has had the audacity to redistrict the whole city into larger areas, so that their work is increased to a degree which renders its proper performance an absolute physical impossibility. While the Inspectors are, in all good faith attempting to live up to the rules of the Health Bureau by making daily visits of inspection to at least two public schools in their respective districts, the extraordinary demands made upon their time by imperative calls to the large number of contagious diseases now prevalent, relegates the duties of school-inspection, and of the medical examination of school children to a standpoint of secondary importance, so that these duties must needs be perfunctorily observed in many instances. Each inspector is supposed to cover a district containing from 75,000 to 150,000 inhabitants, according to the density of population, and the supervision of the sanitation of such a population, which, even in times of general good health, is not a matter of play, becomes, in the present state of the prevalence of contagious diseases an undertaking which is too great for any one man. But the authorities refuse to increase the force of Inspectors, or to aid them in any way, so that some of the work must be glossed over, and a great deal of it done hurriedly, with what outcome the onset of an epidemic may unfortunately determine.

The Medical Club of Philadelphia gave a reception and dinner on November 3d, at the Hotel Bellevue, to Dr. Simon Flexner and to Dr. John G. Clarke, the two new occupants of chairs in the Medical School of the University of Pennsylvania. A large number of prominent medical men were present, and speeches were made by the two principal guests of the evening, and by a number of others.

Dr. Laurence Turnbull, for many years otologist to the Jefferson Medical College Hospital, has tendered his resignation from the staff of that institution. Dr. Turnbull's widely-known success in his specialty was largely gained in the services of this hospital, in which he originally organized and perfected the department of otology, now in a flourishing condition thanks to his interest and personal labors.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

ANOTHER DEATH AT THE DOOR OF A MIDWIFE—POISONING AND DEATH AT ALDERSHOT—IN AID OF HOSPITALS—AN INGENIOUS APPLIANCE FOR THE TREATMENT OF TINEA—A NEEDLE FOUND EMBEDDED IN THE HEART MUSCLE.

LONDON, October 29, 1899.

THE failure of Parliament to pass at its last session some effective bill for regulating the practice of midwifery is becoming more obviously deplorable every day. It will be remembered that two bills were presented, one by the so-called Midwives Association, which really rendered these interesting survivals of barbarism an independent branch of the medical profession; the other drawn up by the Committee of the General Medical Council, which went perhaps a little too far in the opposite direction, by permitting them to practise only under the direct supervision of a qualified medical man. A death has just been reported from Walthamstow of a poor woman who had been attended in her confinement by a midwife and who died six or seven days later from well-marked septicemia. The case was a perfectly typical one both in its clinical history and its post-mortem appearances, and the midwife evidently realized her culpability as she failed to appear at the trial on the ground of "serious illness." It is to be hoped that vigorous action will be taken in the case by the law officers, and attention again called to the serious source of danger which these ignorant and uncleanly representatives of "Sairey Gamp" are to the community.

The result of the inquiry into the curious case of food-poisoning among the soldiers at Aldershot to which we alluded in a former letter has been an open verdict. The case proved to be one of the most puzzling ones which has come before the experts in many months. Twenty-six men, out of one battalion, were taken seriously ill with symptoms of gastric irritation, and of these five died. The clinical diagnosis of food-poisoning was made at once, and as usual on this side of the Atlantic, American canned goods were put down as the offending cause. Indeed the Quartermaster immediately forbade the selling of canned goods of any description or of prepared pastries in the regimental canteens on the strength of this

impression. It was found, however, that no canned goods had been consumed by the men attacked within forty-eight hours, and as soon as the experts were put on the case the strong similarity of the symptoms to those of poisoning by tyrotoxicon was noted at once. Cheese had been supplied to the men as a part of their haversack rations during the maneuvers in which they were engaged, and upon examination this was found to contain abundance of tyrotoxicon. It will be some satisfaction to our injured innocence to know that the cheese was not an American but a New Zealand product. This would look like a fairly clear case, but the missing link in the evidence was that no clear proof could be found of actual ingestion of the cheese by the diseased men, nor could any ingested portions of it be found in their stomachs, or a sufficient quantity of ptomain to permit of definite identification as tyrotoxicon. A curious piece of collateral evidence was furnished, however, by the discovery that a number of sheep, ranging over the ground of the maneuvers, had died with gastric symptoms and upon examining the stomachs of some of these a considerable amount of partially digested cheese was found in them. It would therefore at least be fairly suggestive to anybodv but an official Board of Inquiry that the soldiers, disliking the taste of the cheese, after swallowing only a few bits of it, had thrown it away to be picked up by the unfortunate sheep, and that those men whose gustatory nerves were least sensitive had swallowed enough of it to cause fatal results. Unfortunately most of the men were dead before the cheese was suspected, so that no definite inquiries had been made in regard to that article of diet. The suspicious feature of the verdict is that the cheese had been supplied by the Government of New Zealand directly to the War Department, and the case was most carefully watched by two or more of their official and legal representatives, so that there might have been "reasons of state" for the inability to elicit from the soldiers who recovered the simple fact whether they had eaten any of the cheese or not. Further inquiry is urgently demanded by the public press.

A graceful form of memorial, which we are glad to see is becoming more and more common, has just been observed by General Sir Francis Grenfell, one of the conquerors of the Khalifa, in sending a donation of $2500 for current expenses to the Middlesex Hospital Cancer Wing, recently erected in memory of the late Lady Grenfell.

The committee of the Royal Ear Hospital is arranging for a subscription ball next month to raise funds for a new building, the site of which was purchased some months ago. The science of skillful and ingenious begging for the best of purposes is being carried to even a higher pitch in this country than in our own, and the first "coup" planned by every new hospital is to get itself under the patronage of some distinguished member of the nobility, or, if possible, of the royal family. This results in some rather curious collocations in the title of the institution, as in this instance, in which the first glance at the name might lead to the impression that the royal ear was either so extensive, or subject to such a multitude of diseases that an entire hospital was needed for its care.

A most ingenious little appliance for the treatment of obstinate cases of ringworm was displayed by Dr. Phineas Abraham in a clinical demonstration at the London Polyclinic last week. It was born of the recognition of the fact that in chronic cases of great persistence, such as we have all had painful experience of, the principal stronghold of the tinea is not in the skin of the scalp, but deep in the follicles of the hair, into which, of course, ordinary ointments rubbed or solutions painted upon the surface of the skin could hardly by any means be got to penetrate. Its principle was suggested to Dr. Abraham by the process by which blocks for wood paving are saturated with creosote *in vacuo*. These are placed in a retort from which the air is rapidly exhausted by an air-pump, and then creosote in the form of vapor is introduced, and as the result of the "vacuum" having penetrated some distance down the tubes and fibers of the wood the vapor is literally sucked or drawn completely through and through the mass. This process is imitated in a lesser degree upon the scalp by a small bell-jar with a rubber rim, which, after the scalp has been thoroughly cleansed with alcohol and ether, is pressed upon the area desired to be treated and the air within rapidly exhausted by a small syringe pump. When the tissues have been well sucked up into the cavity of the cup a cock in the bottom of a small tube of creosote is opened and the drug, in the form of vapor, pours into the vacuolized tissues. Dr. Abraham has found it of great practical value in sterilizing not merely the surface, but even the depths of the hair follicles, and by this means alone has succeeded in curing many obstinate cases which had defied all other methods of treatment.

A new genius has arisen in the realm of hospital reform, this time with a bold and radical proposition, that inasmuch as hospitals in the heart of a great city are at an immense expense in the matter of ground, taxes and maintenance, while the patients are at a corresponding disadvantage as to light, air, and quiet, that the great mass of the large city hospitals should be removed bodily out into the country, leaving only a small receiving department and staff for attending to acute emergency or accident cases. The proposition is a Utopian one, but would, we fear, be found almost disastrously impractical both from the point of view of the patient, in his removal from work and friends, and from the point of view of both the physician and the students in attendance at the centers. The suggestor has evidently little or no practical knowledge of the nature of the great bulk of cases which come into our metropolitan hospitals. Unquestionably the establishment of a country branch and convalescent home for each of the hospitals would be a very decided advantage, and we are glad to see that some hospitals are considering this proposition. Certainly every proposal of extending the building of an already established hospital, or of building a new one, ought to be most critically scrutinized from this point of view. Much regret has already been expressed over the action of the great Brompton Hospital for Consumption in building a large and beautifully fitted addition, nearly doubling its capacity, just across the street from its original building and in the heart of a

densely populated portion of the city, instead of spending the money for a sanatorium on some hillside in the country, where the open-air treatment could be carried out with advantage.

Hospital Saturday has again come and gone, and although it will be some weeks before the results are in, yet the preliminary returns are most encouraging. The policy of the abandonment of regular personal street collections has much to recommend it, but it is still on trial and the results will be watched with much interest from this point of view. The amount raised and distributed by this means last year was a little more than $85,000. This, though apparently a large sum, is relatively small for a great metropolis and actually inadequate, as the lowest estimate of the yearly deficit in the expense account of the eleven largest hospitals alone is $100,000.

A curious cause of death was brought before one of the London coroners this week. A lady described as a Polish countess died suddenly in Islington with symptoms pointing to some form of thoracic hemorrhage. Upon post-mortem examination the pericardium was found filled with bloody fluid and a large needle was discovered embedded in the wall of the right auricle and penetrating into its cavity. By the movement of the heart it had apparently produced some laceration of the wall, permitting escape of blood, besides setting up a violent pericarditis. No history could be obtained as to the possible cause of the presence of the needle in this situation. The coroner, however, was quite equal to the emergency, and summed it up with perfect gravity as one of those remarkable cases, so celebrated in myth and legend, in which a needle accidentally introduced into some part of the body had "worked its way" through the tissues until it had penetrated some vital organ or again appeared upon the surface. The case has a curious parallel, however, in the lower animals, as a quite frequent cause of fatal pericarditis and even laceration of the heart-wall in cattle is the penetration of the sac by pieces of wire, rusty nails or needles, from the great paunch, after having been swallowed with the food. Pericarditis in the ox is commoner than in any other species of domestic animals solely upon this account. The suspicion, therefore, would appear to be strong that the case was one of suicide by the method of swallowing a needle or needles, one of which had pierced the pericardium and produced this fatal result, or it is barely possible that the needle might have been introduced directly from the surface by a determined hand. A by no means uncommon form both of suicide and murder among the ingenious Chinese is to push a large needle into the viscera through the umbilicus.

The Government has another Boer question on its hands. The unterrified Board of Leicester Guardians, after awaiting the descent of the long-delayed mandamus thunderbolt for months, now that it has fallen absolutely refuse to comply with its provisions. There are, however, some signs that common sense and prudence are making themselves heard, even in their voluminous ears, by the fact that while at the former meeting the Board was almost unanimous in its determination to court martyrdom, on this occasion there was a long discussion. In the course of this one of the Board delivered himself of the sentiment that if they did not comply "their goal would be gaol," which, spelt after the antiquated English fashion, is rather a fine bit of alliterative antithesis. When the vote was taken it stood only twenty-five to eighteen, and had it not been for the fierce appeals of one female member of the Board the scale might have been turned in the other direction.

One of the London vestries has got itself into what we hope will prove a serious scrape. The wood-block system of pavement is becoming a prime favorite in London again on account of its noiselessness and freedom from being slippery. The objections to it as being an absorbent, moisture-holding, and a culture medium for germs it was supposed had been overcome by its saturation with creosote *in vacuo*. One vestry, however, of an economical turn of mind, thought that this last item was a fad and might just as well be omitted, but unfortunately for its peace of mind the street which it chose for this exhibition of parsimoniousness was the Mecca of consultants, Harley Street, known in popular language by the undeserved term, Valley of the Shadow of Death. The loudness of the outcry that has been raised may be better imagined than described, and we think that the Board will speedily be driven to recede from this parsimonious stand not only in the case of Harley Street but also in other neighborhoods less keenly alive to their sanitary interests.

Still more encouraging reports come in from the results of the malaria commission to Sierra Leone, the pools in one malaria-soaked district, Freetown, infested with anopheles being under one hundred in number and probably capable of permanent sterilization by the service of one man with a kerosene can.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSSOCIATION.

Sixteenth Annual Meeting Held at the New York Academy of Medicine, New York City, October 24, 25 and 26, 1899.

SECOND DAY—OCTOBER 25TH.

AFTERNOON SESSION.

(Concluded from page 608.)

THE President, JOSEPH D. BRYANT, M.D., of New York in the Chair.

DR. HERMAN M. BIGGS of New York County read a paper, entitled

THE ADVANCE IN OUR KNOWLEDGE OF TYPHOID FEVER,

which appears in the present issue of the MEDICAL NEWS.

DR. W. H. PARK of New York City read a paper, entitled

BACTERIOLOGY OF TYPHOID FEVER,

which will also appear in a subsequent issue of the MEDICAL NEWS.

DR. WILLIAM OSLER of Baltimore followed with a paper, entitled

CLINICAL DIAGNOSIS OF TYPHOID FEVER.

There is no one symptom, nor two symptoms, nor three symptoms that are always present in typhoid fever. Any or all of the usual symptoms may be absent. We do not judge by a few positive signs. The diagnosis is a rational one, and must be often made on circumstantial evidence. Yet few diseases are so certain in their diagnosis as typhoid fever. These are practically the words with which Elisha Bartlett begins his chapter on the diagnosis of typhoid fever written in the year 1842. They are as true to-day as they were then, despite all the work that has been done on the subject since.

For instance, very often we meet with cases in which for five to eight days there is slight fever, and in which we sometimes can feel the edge of the spleen. If rose spots do not develop we are apt to call them simple continued fever. In a number of cases, however, after the cessation of the fever, patients have given the Widal reaction, showing that it was really typhoid fever. A recent epidemic in Switzerland was very interesting in this particular. Some thirty cases of frank typhoid fever were treated in the hospital. Twelve other patients, who had slight headache, moderate temperature, and general malaise were not put to bed because they were considered not to have the disease. The application of the Widal test after their convalescence showed that they had had typhoid fever. The Widal test will undoubtedly greatly restrict simple continuous fever as we know it now.

Too much insistence has been given to the abdominal symptoms of typhoid fever. It is very possible for the disease to occur absolutely without abdominal symptoms. Out of thirty-five cases that have been under his care during the last month only four patients have had distinct abdominal symptoms.

Besides the enteric type there are forms of the disease in which the cerebrospinal, the pulmonary and the renal symptoms are of most importance. Many cases of sporadic cerebrospinal meningitis are undoubtedly typhoid fever of the meninges. Very often the typhoid fever is concealed by the occurrence, in the midst of a more or less continuous fever, of a consolidation of one or more lobes of one or both lungs. Undoubtedly certain cases of so-called acute nephritis are really renal typhoid. The disease may run on without other symptoms until the development of rose spots betrays the nature of the disease. There may be no fever at all, or it may begin very abruptly; there may be rose spots, intestinal symptoms may be entirely absent, and so there may be no diazo-reaction. The Widal test may be positive only very late in the disease, or may not occur until after the fever has ceased. There may be no leucocytosis.

Repeated chills usually means malaria. The differential diagnosis of malaria is not so difficult as has been thought. No continued fever diagnosed as malaria here in the North in former times was probably anything but typhoid. The country was shocked during the Spanish-American war by the discrepancy of reports and the disagreement of doctors with regard to the existence of typhoid or malaria in the camps. It was not the army surgeons who were to blame, nor the profession of the country, but the teachers at our medical schools who have not insisted enough on the distinction between these two diseases. Malaria is such an accommodating word. It covers such a multitude of diagnostic sins. It was at least as consoling in its way as the unctuous word Mesopotamia, to the old woman in the story. Above Mason's and Dixon's line an intermittent fever that does not yield to quinin is not malaria. Practically only tertian fever exists at the North, and this yields readily to quinin in thirty-six or forty-eight hours. At the South we have the estivo-autumnal type which gives rise to a remittent fever. The curve reaches a fastigium and then does not vary by a degree perhaps for days. The temperature chart is like a map of the Pennsylvania Railroad; that of ordinary malaria is more like the multi serrated line of the Baltimore and Ohio. The estivo-autumnal type may resist quinin for two or three, or even four or five days. The parasite of the disease too is harder to find so that there is more reason for mistake in diagnosis. Out of a thousand cases observed at Baltimore at Johns Hopkins in only one case did malaria and typhoid occur together. In general and obscure febrile cases it is better to suspect typhoid than malaria. Our position in the matter should not be the Anglo-Saxon one of thinking the case innocent of typhoid until proved, but rather the Gallic position of considering the case guilty of typhoid until it is demonstrated to be innocent. Two works should be on every physician's table—Keen's "Surgical" and Hare's "Medical Complications of Typhoid Fever."

DR. E. G. JANEWAY of New York then read a paper, entitled

SOME INTERESTING CASES ILLUSTRATIVE OF THE PECULIARITIES OF TYPHOID FEVER.

In three cases he has seen tetany as a complication of typhoid fever. The affection is rare in this country, or rather is rarely reported. It is probable, however, that it occurs more frequently than is thought and the muscular rigidity is considered a part of the irritable muscular condition of the disease. In one of these cases the involvement of the jaw made feeding difficult.

In a number of cases he has seen psychosis develop of so severe a type that the affection has been considered to be acute mania. Typhoid-fever patients have even been sent to the asylum as insane. A suicidal tendency is extremely common and should always be carefully guarded against. Typhoid-fever patients should never be left alone. In one case in charge of a doctor the patient asked him to leave the room for a few minutes in order to make urination easier. When the doctor returned after only a minute he found the patient attempting to cut his throat. In another case in charge of three nurses, the patient asked them to leave the room because their presence disturbed her. They did so and she leaped from a fourth-story window into the area. Sharp instruments, pistols, or dangerous drugs of any kind should not be left within reach of typhoid patients.

"Some unexpected eruptions occur in typhoid fever. I have seen herpes several times, though it is so infrequent that whenever I find it in a case of suspected typhoid I

carefully revise the diagnosis and usually find that it is some other affection with which we have to deal. With herpes present the diagnosis of typhoid is very improbable. Petechial eruptions that make one think of typhus fever occur occasionally. I have seen peculiar eruptions of this kind occur beneath cold-water coils that had been placed on the abdomen. The spiral blood extravasation had sometimes alarmed the patient and his friends considerably. Once I was almost tempted to diagnose typhoid in a case in which sapremia due to suppressed menstruation proved to be the real cause of the fever and increased pulse-rate.

"In general in office practice the rectal temperature should be taken more often than it is. Patients come in out of the air and the temperature of the mouth will often be normal at a time when the rectal temperature shows distinct fever. Many patients that we treat now in our office for febriculæ would be sent home to bed if we took rectal temperatures more frequently."

DR. WILLIAM H. THOMSON of New York City followed with a paper on

STATISTICS OF TYPHOID FEVER AT THE ROOSEVELT HOSPITAL FOR TEN YEARS.

He has had in his service during the last ten years 368 cases, in 275 males and 93 females. Of these 25 have died, a mortality of 6.8 per cent. Fifty-six per cent. of the deaths have occurred within a week after admission. Most of the patients were hopelessly moribund when they came into the hospital. Only 3 per cent. of the patients who remained in the hospital for more than a week died. "The routine treatment of the hospital in my service is to give calomel and jalap every third night until the middle of the second week, sometimes even well into the third week. As diet the patients take milk, mixed with equal parts of lime water. As all pastoral peoples that live much on milk have some way of curdling it in order to save the stomach the labor of coagulation I frequently make use of this expedient. When there is much tympanites I find turpentine the best remedy. As soon as the tongue begins to become dry I give 10 to 20 minims. Since 1874 cold baths have been used in my service at the hospital. I consider that they are useful not only for the fever, but also for the toxemia. In all cases where albuminuria exists I give large injections, 4 to 6 pints, of saline solution."

DR. REGINALD FITZ of Boston read a paper, entitled

TYPHOID FEVER IN THE MASSACHUSETTS GENERAL HOSPITAL DURING THE PAST FIFTY YEARS.

The death-rate by decades in the Boston Hospital during the past fifty-years has been: From 1839 to 1849, eleven per cent.; from 1849 to 1859, sixteen per cent.; from 1859 to 1869, fifteen per cent.; from 1869 to 1879, 16.6 per cent.; from 1879 to 1889, 14.7 per cent.; from 1889 to 1899, 13.5 per. cent. The mortality from typhoid fever has not improved then to any very great extent in the fifty years. There has been a definitely lessened mortality since the institution of cold-water treatment; during the last five years liquid diet has not been absolutely adhered to in one of the departments of the hospital. Patients under Dr. Shattuck's care have been allowed to take soft, solid diet, including farinaceous puddings and the like. This has given excellent results, and especially has not increased the tendency to hemorrhage. As a matter of fact, mortality has been less in this diet than with an absolute milk diet. There have been no more complications, and not any more relapses than under the more severe system. It is evident that something can be allowed besides milk.

DR. A. A. SMITH of New York read a paper, entitled

SOME PHASES OF TYPHOID FEVER AS SEEN IN BELLEVUE HOSPITAL,

which will appear in a subsequent issue of the MEDICAL NEWS.

DR. ABRAHAM JACOBI of New York then read a paper, entitled

TYPHOID FEVER IN CHILDREN.

The severity of the illness in typhoid fever in children does not always correspond to the height of the fever. At times the disease runs an afebrile course. In cerebral cases this is especially true. Cases complicated by a great deal of toxemia are also likely to have low temperatures. In general, typhoid with low temperature in children has a bad prognosis. Ambulant cases are likely to occur in children rather frequently.

Otitis occurs rather commonly as a complication. It does not often cause perforation of the tympanum, however, for the Eustachian tube is a wide-open funnel in childhood, and may drain away the inflammatory secretion. There may be two daily curves of temperature in the disease in children, so that the temperature should be taken at least four times a day, or even oftener. Gurgling in the ileocecal region should not be considered as suspicious of typhoid in children, for this symptom occurs very frequently in many intestinal affections of childhood. Hemorrhage in children, too, depends on the character of the epidemic and on the season in which the disease occurs. Some years the speaker had seen no hemorrhages, while in others they occurred rather frequently.

As to the treatment, he insisted on absolutely liquid diet until apyrexia had lasted ten days. Patients should be given plenty of water by the mouth. If ten drops of dilute hydrochloric acid be put in water and then sweetened a very pleasant, cooling drink is obtained. This serves the useful purpose of washing out the intestinal tract, of diluting the toxins in the circulation, and of causing diuresis by a rise of blood-pressure. The lips and tongue should be kept clean. The nose should be sprayed out occasionally. The position of the patient should be changed frequently in bed so as to avoid hypostatic affections of the lungs and spinal cord. Calome should not be given after the first half of the second week. For offensive stools thymol or permanganate of potash, 1 to 4000, are useful remedies. Where stimulation is needed camphor in sweet almond oil 1 to 4 parts is very useful. For excitement chloral is a useful remedy. Where there is weak heart croton chloral should be substituted.

There is a prejudice against antipyretic drugs. It has been assumed that high temperature helps to kill bacteria and increases the amount of antitoxin formed by the system. This idea is no longer generally accepted and Flügge denies it entirely. Certainly patients are more comfortable when the temperature has been brought down. Not all antipyretics are advisable. Acetanilid, for instance, is a tissue poison. It causes the formation of methhemoglobin in the blood and so is dangerous. As the old Greek poet said, water is the best. Use it for its antipyretic effect, not for any presumed stimulating qualities. It need not be used cold, for water at 90° to 95° F. will bring down temperatures of 104° to 105° F. very readily. Bathing is contraindicated when there is a feeble heart or where there is pneumonia or peritonitis.

DR. DELANCY ROCHESTER of Erie County read a paper, entitled

THE LOCAL, NON-SURGICAL TREATMENT OF THE INTESTINAL TRACT IN TYPHOID FEVER.

Nihilistic therapeutics in typhoid fever have had their day. There are a good many drugs that produce good effects. Calomel, for instance, is undoubtedly useful. It is especially to be remembered, however, that a certain amount of the typhoid lesions occur in the large intestine and in the small intestine not very far from the ileocecal valve. The ulcers in the large intestines can be reached by high rectal injections. It has not yet been definitely decided whether we can force injections under gentle pressure beyond the ileocecal valve in all cases. In some cases we certainly can. In typhoid fever the large intestine always suffers from a catarrhal condition and this at least will be benefited by the rectal injection. This local treatment of typhoid fever should not be neglected.

DR. W. W. KEEN of Philadelphia followed with a paper, entitled

TREATMENT OF PERFORATION OF THE BOWEL IN TYPHOID FEVER.

Since Mikulicz in 1884 performed the first operation for perforation of the intestines from typhoid ulcer, up to the end of 1898, eighty-three cases were operated on, and nineteen per cent. of them were saved. During this last nine months sixty-seven additional cases have been operated on, and twenty-six per cent. of them have been saved. If doctors would but remember that the healing process during typhoid fever is quite as good as in health surgeons would get more chance to operate, be called sooner to the cases, and very soon the statistics would show at least one in three saved.

In what class of cases should we operate? In practically every case. The better the general condition the better the chance. One case was operated on three times and survived. Two cases have been operated on twice. One case was operated on successfully for postoperative obstruction. In cases under fifteen years of age, where operation has been done, fifty per cent. have recovered. From fifteen to twenty-five years of age is the most unfavorable period. Women have perforations less than half as often as men, and recover twice as often from operation, according to the statistics. The later in the disease that perforation occurs the better is the prognosis.

When should we operate? Not during the primary shock. This means usually not during the first twelve hours. I have seen fit to correct this original expression of opinion, and to say rather not during the first eight hours. There would seem to be two rules: First, operate as soon as possible; but, second, do not operate during profound shock. The improvement of the statistics in the future will depend not so much on any perfection of our technic, but on advance in diagnosis. The preperforative stage has been spoken of. If this can be recognized with any assurance then, perhaps, we can prevent perforation entirely. In any case a surgeon should be called in consultation as soon as any abdominal symptoms appear that point even to impending perforation. An exploratory incision may be made under cocain anesthesia with very little inconvenience to the patient. After this exploratory incision, bacteriologic specimens may be taken and examined to see if there is any peritonitis.

The Halsted mattress suture should be used rather than continuous suture. If the perforation is very extensive, a resection of the intestine may be done. Two recoveries have been reported after such an operation. If at any point there seems to be impending perforation the spot should be sutured. Such points should be looked for carefully, as a number of cases have terminated fatally after operation owing to the occurrence of a second perforation. The abdomen should be closed without drainage. Speed is an important factor in the success of the operation. There are cases in the literature of the subject now which show that the surgeon need never despair of any case, no matter how low the patient may seem in vitality, and no matter how many other complications have occurred before. Most unpromising cases have ended in recovery.

THIRD DAY—OCTOBER 26TH.

MORNING SESSION.

DR. E. D. FERGUSON of Troy offered a resolution to the effect that since the branch association cannot constitutionally elect the vice-presidents for the different districts, that they be asked to recommend some one each year to be chosen to that office by the Association.

DR. WICKES WASHBURN of New York offered a resolution that a committee be appointed to draw up a leaflet for popular instruction as to the treatment of consumptives at home.

DR. STEPHEN SMITH explained what was being done by a committee appointed to guide legislation as to the establishment of a national bureau of health. He explained what was proposed by the Spooner, McCaffrey, and the Hepburn bills, and asked that the Association adopt a resolution recommending to Congress the passage of the Spooner bill, which creates a special bureau of public health in the Department of the Treasury.

All of these resolutions were adopted by vote of the Association.

DR. HENRY O. MARCY of Boston then read a paper with the title

TWO CASES OF LARGE RETAINED HERNIA OPERATED UPON WITH FATAL RESULT.

The speaker has had two unsuccessful results which he thinks will be of service to his colleagues to have knowledge of, as they seem to indicate that size of the hernia alone, when it is excessive, may constitute a contraindication to radical operation. The first case was that of a man weighing 250 pounds, six feet in height, and not over stout. There was a retrocession of the abdomen below the umbilicus. He had a right inguinal hernia, the tumor of which reached almost to the knee. It proved an operation effecting almost the whole of the large intestines, and several feet of the small intestine. The mesentery had become extremely thickened, by actual measurement being more than two inches in thickness. There were no adhesions. The patient was placed in a pronounced Trendelenburg position. After the opening of the sac the intestines were gradually pushed back into the abdomen. The abdominal walls relaxed well, and the intestines went back without difficulty. It was very hard to get all the mesentery back, but this was finally successfully accomplished. When the wound was closed the abdominal walls did not seem over tense. The patient had taken the anesthetic very well, but began to cough severely almost immediately on coming out from its influence. A large amount of frothy mucus was coughed up. Death ensued thirty-two hours after, evidently from interference with pulmonary function, though no special lesion developed.

The second case was that of a man aged fifty-two years, a prominent educator in the West, who had a very large tumor due to a right inguinal hernia. He was six feet two in height, and weighed 350 pounds. Despite this large weight he did not have the appearance of being too fat. His hernia had developed many years ago, as a result of riding in the mountains, and could not be retained by a truss. When it became very large it was supported from his shoulders in a bag arranged for the purpose. It became strangulated twice. And each time relief was obtained only with the greatest difficulty. It was extremely painful and gave a sense of continual discomfort, even while he was in bed. He realized all the dangers of the operation, yet felt that life was not worth living in his present condition. On examination his scrotal hernia proved to reach nearly to his knee. The operation was done without much difficulty. After the incision of the sac the omentum proved not to be very much thickened, the appendix was extremely lengthened and hypertrophied. It was at least six inches long and as thick as the index-finger. The cord was very long from the opening in the abdominal wall to the testicle being at least twenty inches. It was very interesting to see how completely the dartos contracted after operation. The intestines presented some difficulty in getting back at first, but the resistance suddenly yielded and their replacement was easy. After coming out of the anesthetic his respirations rose from sixteen to forty. His pulse rose to 140 and his temperature to 102° F. The next day his temperature and pulse came down, but the respirations continued as frequent as before. There was no nausea, after a day or two he digested well and he slept well. His respirations continued rapid until the ninth day, when he died suddenly. The autopsy proved absolutely negative. Nothing could be found to account for the death.

There are no such cases as this mentioned in medical literature so far as I have been able to ascertain. I have operated on large tumors and have not considered size as a contraindication to radical operation for hernia. It is evident, however, that this must be given careful attention in all such cases.

The next paper was read by DR. WILLIAM S. MACLAREN of Litchfield, Conn., and was entitled

THE SPHERE OF DRAINAGE IN SURGERY OF THE APPENDIX.

He thinks that drainage is not only useless but harmful after operation for appendicitis. Appendicial abscess should no more be treated as an ordinary superficial abscess than should an ulcer of the stomach be treated in the same way as an ulcer of the leg. The use of drainage introduces a factor on the wrong side. Irritation is set up where inflammation existed before. If a glass tube is used it is practically a foreign body and causes a similar reaction. Gauze drainage is irritant just in proportion to the amount of gauze used. Even in septic cases the best treatment is to leave the abdomen filled with saline solution and close up the abdominal wound completely. The use of saline plentifully dilutes the toxins present in the peritoneal cavity, and spreads the septic material over a large amount of peritoneum. Now each square inch of peritoneum is capable of destroying a certain amount of infectious material. When the virus present, whether chemical or biological, is spread over a large surface the resistive vitality of a large number of cells is called into action, and the result is final victory over the morbific agent. In a recent case in which an appendicial abscess had ruptured into the peritoneal cavity the incision of the peritoneum was followed by the exit of foul smelling pus. This was not walled off and general peritonitis seemed already in progress. Eight ounces of peroxid of hydrogen was poured into the cavity and then the peritoneum was flushed out with a saline solution. Finally, after being left full of the solution it was closed. The patient recovered.

DR. THOMAS B. SCULLY of Oneida County followed with a paper, entitled

APPENDICITIS: ITS TREATMENT FROM A MEDICAL AND SURGICAL STANDPOINT.

Two much importance has been placed on the surgical aspects of appendicitis. This has led to a reaction in many minds, and among a great many of the profession, and especially among the laity, the present rage for operation is considered a fad. For the first twenty-four hours, at least, appendicitis is practically always a medical affection. Though it must be borne in mind always that it may at any moment become a surgical one. If when a case is first seen morphin and strychnin be given hypodermically and magnesium sulphate by the mouth,

with an injection perhaps of water and glycerin, the medical man may await results. If the temperature and pulse are high, aconite and veratrum viride may be used in order to bring them down. If there is no abatement of the symptoms after twenty-four hours operation should be advised. The magnesium sulphate is best taken in teaspoonful doses every half hour until there is free watery evacuation. Salines used in this way deplete the inflammation, lessen the amount of toxins in the circulation, clean out the intestines and prepare the patient for operation later should it be necessary.

THE ADMINISTRATION OF NITROUS OXID WITH AIR OR WITH OXYGEN,

was the title of the next paper by DR. THOMAS L. BENNETT of New York County.

He considers that nitrous oxid is the ideal anesthetic. It does not cause struggling or excitement and does not give rise to stimulation. Struggling at the beginning of an operation is often a serious matter. More than one appendicial abscess has been ruptured under such circumstances. For delicate patients excitement and stimulation are very exhausting. Then nitrous oxid does not cause disturbance of the heart, lungs, or kidneys. It has been given millions of times for the extraction of teeth, practically without ever causing death. It is especially indicated for very weak patients, or for those who from previous experience are known to stand the ordinary anesthetics, ether or chloroform, badly. It is also indicated for patients who have kidney or lung trouble or for the aged whose heart and lungs and kidneys are liable to be affected, and whose vascular apparatus is in a degenerated condition. The administration of nitrous oxid requires special experience, at least one death has been reported recently where a young interne in a hospital was administering gas and did not recognize the symptoms which indicated that the patient had had enough of the anesthetic and that it was dangerous to give more. Gas is particularly useful for small operations, like the opening of abscesses, the curetting of bone or of sinuses or the curetting of internal organs or in general for operations that take but a few minutes.

DR. MERRILL RICKETTS of Cincinnati, Ohio, read a paper with the title

CHOLANGIOSTOMY, WITH REPORT OF TWO SUCCESSFUL CASES.

He reported two cases in which he has made incisions through portions of the liver substance in order to get at gall-stones in the intrahepatic ducts, or in a very contracted gall-bladder. Hepatostomy for these concretions that form within the liver is a thoroughly feasible operation. It used to be thought that incision of liver substances caused uncontrollable bleeding, but the wound may be packed and hemorrhage is easily managed. In one of Dr. Ricketts' cases constriction of the gall-bladder caused that organ to retreat so much beneath the edge of the liver that it could not be reached through the ordinary incisions made over the region of its fundus. In this case an incision was made through the liver, the stone removed, and the wound packed. Pus and bile flowed for six weeks, a sinus finally remained, but this at length closed. In another case the occlusion of the cystic duct seemed to have been brought on by a tubercular process in the biliary passages. Operation was performed through the liver and an attempt made to do a complete hepatoduodenostomy. The attempt was unsuccessful, principally owing to the fact that the tubercular process continued its course. Death ensued after five months.

The next paper was read by DR. REGINALD H. SAYRE of New York County and was entitled

THE DIFFERENTIAL DIAGNOSIS BETWEEN CHRONIC JOINT DISEASE AND TRAUMATIC NEUROSIS.

Error is comparatively easy in the differentiation of these two affection, though it is usually thought not to be. Mistakes are made, not rarely even by men of large experience. It is especially because the history of the patient is defective and sufficiently careful inquiry is not made as to the details of the affection. Hysterical joints may be differentiated from inflamed joints by careful examination of the patient. The absence of inflammatory signs is of some importance. Usually the patient will permit motion in the joint which was at first said to be very painful if manipulations are first undertaken in a neighboring joint. And this gradually made to include the affected joint without attracting the patient's attention. Where the case is seen several times, pains may be complained of at different points on different occasions. The general appearance of neurotic patients is an important pathognomonic sign which may be recognized without much difficulty.

In general the following rules will help in the diagnosis: A joint neurosis is apt to follow injury at a much shorter interval than does actual joint disease. The general temperature of the patient is usually a little below normal in neurosis. In inflammation of the joint it is usually higher than normal. The local temperature, that is, that of the affected part, is lower in case of a neurosis, while it is high in disease of the joint. Muscular atrophy progresses more rapidly after nerve injury. True muscular atrophy is not present except in joint disease. It may be simulated, however, by the atrophy of inaction consequent upon a hysterical joint affection.

AFTERNOON SESSION.

The first paper was read by DR. LEROY J. BROOKS of Chenango County. It was a sequel to his paper on the same subject last year, and was entitled

SUBNORMAL TEMPERATURE.

He considers that the temperature is frequently of diagnostic significance at the beginning of obscure affections. He has found, for instance, that melancholia is nearly always preceded by subnormal temperatures for some time. Often this subnormal temperature seems to be due to a weak circulation, especially to a weak heart, which by supplying insufficient nutrition to the brain predisposes to melancholia. Subnormal temperatures occur very often before attacks of epilepsy. Apoplexy seems often to be immediately preceded by a lower temperature

than normal, and low temperature always develops immediately after the seizure.

Of course, it must be borne in mind that certain people have a low temperature even in health, and of this fact the doctor must have cognizance before hand, or he will attribute to it a significance that it has not. Toxemias, especially toxemias of intestinal origin, are prone to give subnormal temperatures.

They occur in all diathetic diseases. They follow severe burns, especially if extensive, and certain skin lesions such as scleroderma produce low temperature.

DR. A. A. HUBBELL of Erie County next read a paper, entitled

EYE COMPLICATIONS IN TYPHOID FEVER

which appears in this issue of the MEDICAL NEWS.

The next paper, entitled

THE EFFECTS OF CERTAIN OCCUPATIONS ON THE PHARYNX,

was read by DR. SEYMOUR OPPENHEIMER of New York. He said that occupation pharyngitis is a rather common affection. An example of it may be seen from a recent case. A laundress developed a granular pharyngitis with relaxed mucous membrane, sore throat, constant expectoration, and congestion of the pharyngeal tissues. Treatment failed to be of much benefit. She had never been troubled before she took up the occupation of laundress, which required her to live a good deal in heated air. As soon as she changed her occupation the pharyngitis readily yielded to treatment.

It is usually not the temperature of the air, however, but the dust and foreign particles it contains which causes it to be irritating to the pharynx. Industries involving the breathing of smoke, of acid fumes, are especially liable to set up this industrial pharyngitis. In a recent case, a solderer of metals, who had worked a good deal where acids were commonly employed, had a pharyngitis that was very obstinate to treatment. Whenever he stopped work for a while, however, it immediately began to improve.

Young persons are much more affected than adults, and it is wonderful how soon after the mill is shut down. As soon as work begins again the old affection returns. The furnaces in our modern houses, with their dry, warm air, cause swollen, erectile tissue in the nose. This limits the amount of space through which nasal breathing may take place, and so mouth-breathing is begun, and this practically always causes pharyngitis. The treatment for occupation pharyngitis is mainly the use of simple alkaline sprays. The indication, of course, is adapted to remove the cause if possible by a change of occupation.

The next paper was read by DR. Z. J. LUSK of Wyoming County. Its title was

THE TOPICAL APPLICATION OF IODOFORM IN THE TREATMENT OF TUBERCULAR PERITONITIS WITH CASES.

He has found that in hopeless cases of tubercular peritonitis inunctions with iodoform and vaselin often seem to be effective in controlling the progress of the disease and causing the resorption of morbid products. He reported altogether eleven cases in which applications of iodoform and vaselin, 1 to 5, produced excellent results. With this treatment he combines tonics and cod-liver oil.

The paper by DR. JOHN W. S. GOULEY of New York County, entitled "Notes on Catheterism, Catheters and Bougies," was read by title.

DR. THOMAS F. REILLY of New York County, then read a paper, entitled

AN EPIDEMIC OF INTERCOSTAL NEURALGIA.

During the spring he saw a series of fourteen cases, including his own, of an affection that began with an intercostal neuralgia and was frequently complicated by an herpetic eruption. As other physicians in the neighborhood also saw cases of similar character he thinks he is justified in speaking of it as an epidemic. The first symptom was usually a severe pain in the left hypochrondriac region. This was continuous and the sensation was as if the spleen were pushing out the rib. After this there was profuse perspiration, then diminution of pain, and a drop in the temperature. The next day there was usually another paroxysm, repeating the features of the day before. After this the herpetic eruption appeared. In one case there were four paroxysms. There was no enlargement of the spleen in any case. In four of the cases the herpetic eruption occurred as herpes zoster or zona. In eight of the cases the herpetic vesicles appeared on the face, or on the mucous membrane. In two further case there was no eruption. There was a general pruritus which was not limited to the nerve over which the pain had occurred.

A number of things point to the fact that such cases are due to a special infectious agent that has its point of attack in the superficial nerve. One attack of the disease seems to confer immunity. There is a certain epidemic character about it, and in this series of cases three patients were members of one family, while in two other houses two members of the respective families were attacked. Epidemics of the disease have been reported from Vienna as occurring especially in the spring and fall. Sometimes the plasmodium malariæ has been found in the blood, but quinin had no effect in Dr. Reilly's cases. The best treatment seemed to be the strapping of the affected side with adhesive plaster. This should not be applied in a single piece as is often done, but in strips or ribbons about two inches wide.

The next paper, "Non-malignant Strictures of the Esophagus, Their Treatment by Retrograde Dilatation," by DR. HENRY MANN SILVER of New York County, was read by title.

DR. FRANK S. MILBURY of Kings County then read a paper, entitled

SUPPURATIVE ETHMOIDITIS AND ITS TREATMENT.

The ethmoidal sinus is the most frequently affected of the accessory sinuses of the nose. While suppuration is frequent, necrosis is rare. When suppuration occurs, eye symptoms frequently develop. There is pain at the base of the nose, or below the orbit, or back of the eye, or a painful sense of pressure over the whole head. Often

enough there is no pain at all. Sometimes there is a bulging at the inner canthus of the eye. Sometimes the tumor here ruptures and gives exit to pus. Usually pus will be found flowing from below the middle turbinated bone. Though the pus has a very unpleasant odor this is often not noticed by the patient himself, as the nerve of smell has been injured by the pathological process in the nose.

The indication in suppurative ethmoiditis is to provide a free issue for the pus. This should be done through the nose. In a number of cases the forceps invented by Dr. Milbury himself enable one to make a free opening into the ethmoidal cells in order to secure thorough drainage. It is not necessary then to remove very much of the middle turbinated, and the tissues of the nose with their important functions are spared.

The paper of DR. EDWARD H. SQUIBB of Kings County, entitled "Brief Comments on the Materia Medica, Pharmacy, and Therapeutics of the Year Ending October 1, 1899," was read by title.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held October 3, 1899.

THE President, FREDERICK PETERSON, M.D., in the Chair.

CEREBELLAR TUMOR.

DR. W. B. NOYES presented a boy, aged five years, who had been well up to last June. At that time he had had an obscure illness which had been diagnosed by the attending physician as an auto-intoxication. He had remained unconscious for two days. During July he had been in fair condition. In August it was noticed that he staggered when walking. When sitting down he could move his legs, but there was absolute ataxia. There was a slight spastic condition of the legs which interfered with properly obtaining the knee-jerk. Ankle clonus could be occasionally elicited. There were no sensory disturbances of any sort. His mental condition was becoming slowly worse. Examination of the eyes showed papillitis with hemorrhages over the disk. The pupils were dilated and did not respond to light. There had been neither headache nor vomiting. The case was presented as probably one of cerebellar tumor. The speaker said that it was not impossible that the sickness which had occurred last June might have been a meningitis; it was also possible that there was a hydrocephalus.

DR. GEORGE W. JACOBY said that he had been impressed with the general laxness of the boy and the bending forward of the thorax. This general loss of muscular tone made him believe the diagnosis of cerebellar tumor to be correct.

DR. HUGHES of St. Louis said that while the case suggested cerebellar tumor it seemed to him not improbable that there had been a cerebrospinal meningitis, and that the present condition was the result of this meningitis.

DR. EDWARD D. FISHER inclined to the view that the case was one of cerebellar tumor, although admitting the force of the statement of the last speaker.

DR. NOYES thought the condition of the eyes alone seemed competent to settle the question of the diagnosis. He had been unable to find the report of a case of hydrocephalus producing optic neuritus, although it might cause optic atrophy when very far advanced. The disease was evidently progressing rather rapidly now.

BRACHIAL PLEXUS PRESSURE PARALYSIS.

DR. WILLIAM M. LESZYNSKY presented a young woman having a brachial plexus paralysis affecting both arms, the result of pressure. The biceps group was paralyzed; the extensors and the deltoid were extremely weak; there was an atrophy around the shoulder joint. There were no sensory symptoms. The faradic irritability was lost in the nerves and muscles. On the right side there was the same condition, although to a less degree. The paralysis had existed three months. The etiology in this case was interesting. She had been operated upon about three months ago for an abdominal growth. Immediately afterward a paralysis had developed, undoubtedly from the pressure exerted for about one hour and a half by an apparatus used for support. Dr. Leszynsky said he had seen similar cases of pressure paralysis, but in this instance the paralysis had been so severe, and had lasted so long that it brought up the interesting question as to whether or not the surgeon might not be open to a suit for damages. On inquiry he had learned that this form of paralysis was not at all uncommon at the present time in surgical practice, yet it was entirely avoidable. In an article by Dr. Garrigues several cases had been reported in which the paralysis had lasted for a year or more, and had been followed by atrophy. The apparatus referred to usually made pressure between the clavicle and the first rib.

DR. FISHER said that these cases of pressure paralysis were quite commonly observed after operations, as for example for appendicitis, but he had never before seen a case in which both sides had been involved. Negligence in attending to the position of the arm during operation was often responsible for such paralysis.

DR. FRAENKEL said that while many cases of post-operative paralysis had been reported, it should be remembered that in some the paralysis had been ascribed to the ether, although in others the influence of pressure had been definitely shown. This made it difficult to hold the surgeon liable in many instances.

DR. G. W. JACOBY said that the various cases had been recently tabulated and the conclusion reached that all the paralyses could only be explained by pressure. The concensus of opinion at the present time seemed to be that the ether could not give rise to this form of paralysis. Surgical assistants were often very negligent about these matters. For example, he had found an assistant giving hypodermic injections of ether and brandy in a case of collapse, directly over the musculospiral nerve, and the ensuing paralysis he would have found difficulty in explaining had he not seen these injections being given. Again, he had known it to be positively asserted that there had been no pressure, and yet he had personally seen the etherizer resting his elbows heavily over the patient's clavicles.

DR. FREDERICK PETERSON said that he had seen even the peroneal nerve affected in this way after ether narcosis. In every case that he had investigated he had found that there had been a possibility of the paralysis having been produced by pressure. The question was of great importance, for he believed it would be perfectly possible for such a paralyzed patient to collect damages from the surgeon on account of such negligence. Nearly all the pressure paralyses occurring at night developed during alcoholic sleep, and he had come to look upon these as occurring in nerves which had been rendered especially vulnerable by ether or alcohol, or, as suggested by Dr. G. W. Jacoby, the inhalation of carbonic oxid in close sleeping-rooms. In cases of musculospiral palsy the nerve was generally pressed upon when the patient slept with the arm raised and the hand under the back of the head.

DR. HUGHES said that the paralyses following the comatose state in epilepsy exhibited local peripheral expressions. Neurologists had been accustomed to consider these as of central origin. His own opinion was that ether was a factor which could not be ignored—that it was a toxic factor, acting on the peripheral cells, thus rendering the nervous system vulnerable, just as did alcohol. He had not yet been convinced that these cases were exclusively peripheral paralyses, and owing to this lack of unanimity among neurologists regarding the causation of these cases their medico-legal aspect assumed grave importance. Many of these patients recover just as in the case of epileptic paralyses, and he was inclined to think that the toxic condition of the brain found associated with etherization was an important etiologic factor.

DR. LESZYNSKY said that he could not agree with the views of the previous speaker regarding the effect of etherization. When a healthy person was etherized it could hardly be said that the toxic condition was so soon responsible for the paralysis; it was rather a case of extreme pressure made during unconsciousness. In his own mind there was no question that all of these cases were directly due to pressure made during unconsciousness. Ether, like other stimulants, might give rise to cerebral hemorrhage, or induce hemiplegia of the hysterical type. If these cases were due to a lesion in the anterior horn they would not all recover, as occurred invariably in the class of cases under discussion.

THE CENTRAL NERVOUS SYSTEM IN ACUTE MALARIAL INFECTION.

DR. JAMES EWING read this paper. He introduced the subject by reporting the following three cases:

CASE I.—Estivo-autumnal malaria, with marked cerebral symptoms and infection with a single, well-defined group of parasites. The patient was a soldier who had just returned from Cuba. The stupor lasted thirty-six hours prior to death. Two days before death there had been many ring-shaped organisms in the blood. The stupor began twelve hours after sporulation occurred. At the autopsy the viscera showed the lesions of severe malarial infection. The capillaries of the cerebrum, cerebellum, medulla, and cervical cord contained a large number of cells harboring parasites. Many capillaries were occluded by thrombi. The ganglion cells showed everywhere a reduction in size, irregularity and splitting or loss of the chromatic bodies. Death was due to the massing of the parasites in the capillaries. The case was a good example of comatose malaria of the cerebral type.

CASE II.—This patient had chills on alternate days for several days, and on admission had a pulse of 110, and was much prostrated. There were marked insomnia and mild delirium for awhile; then the delirium became more marked, and finally there was coma, lasting for some time before death. There was no evidence that the coma was uremic. The temperature reached 108° F. shortly before death. On October 12th the blood contained an enormous number of ovoidal, spherical, and crescentic bodies. On October 25th, or eight hours before death, very few crescents could be seen. None of the younger forms was found. The autopsy showed moderate edema of the brain, the basal vessels normal, and very few parasites present. The deposit of pigment in the brain was slight. Throughout the cortex the cells showed no marked change further than a uniform diminution in the chromatic substance. In many of the pericellular lymphocytes were peculiar structures—elongated fibers or rods with tapering ends—of undetermined nature. Similar deposits were found in other cases of malaria, and in one case of tubercular meningitis. The chief feature of this case was the prolonged delirium and coma, yet the post-mortem examination showed far less change in the kidney than was usually seen in profound malarial infection.

CASE III.—This was a case of fatal malaria associated with hemoglobinuria. The man had contracted malaria in Santiago in July, 1898. He was comatose, extremely emaciated, excessively anemic, and moderately jaundiced. He was at Camp Wikoff for three days prior to death. The dura and pia were distinctly jaundiced. The cerebrum, cerebellum, and medulla showed the usual injection of vessels with blood, but the vast majority of the vessels were free from the parasites. An abundant deposit of hematoidin in the kidneys was interesting.

Commenting upon the foregoing cases, the speaker said that when the brain cortex was markedly brownish it indicated usually the presence of a large number of parasites, but this was not an invariable rule. The majority of cases of comatose malaria did not exhibit the massing of the parasites in the brain. Of eight cases in which he had examined the brain after death in none was there a distinct brownish discoloration of the brain. Hemorrhages had been found in some cases, as had also a moderate degree of edema. Usually the parasites were uniformly distributed in the brain and cord, but a case had been reported in which they had been localized in the medulla. The number of these parasites was often enormous, and complete occlusion of the vessels was not at all uncommon. While most of the fixed pigment was found in the endothelium, the parasites were rarely seen in the endothelial cells. To the general condition of the obstructed circulation it was probably safe to refer the

cerebral symptoms observed in these severe cases of malarial infection. The ganglion cells, in cases of comatose malaria, had been studied, and the changes found to consist chiefly in the various degrees of chromatolysis. The dendrites were usually involved before the cell body. The ganglion cells appeared to suffer less than in the average case of typhoid fever. The mere presence of the parasites in the tissues seemed to exert no bad influence except in a mechanical way. In one of the cases reported in the paper the deepening of the coma could be apparently connected with the progressive filling of the capillaries with the parasites and the formation of thrombi. In the other two cases the parasites were few and the pigment scanty. In both of these cases the malarial infection was exceedingly severe. These cases showed that the coma of malaria was not always referable to the presence of the cerebral parasites. Of the writer's sixty-four reported cases of malarial coma, there were five simple tertian infections. In the estivo-autumnal cases, with crescents only in the blood, there were thirty-four instances from the Montauk camp. Coma appeared to be rather frequent in patients showing only crescents in the blood. Crescents did not exhibit such a tendency to unequal distribution as did the fertile forms. From the condition of the viscera found in the second and third cases reported—and this variety occurred expecially in cachectic individuals in whom the disease had existed for some weeks—it seems probable that the coma was the result of the general and profound malarial infection. The writer did not believe that much importance should be attached at the present time to the condition of the ganglion cells in malaria. When the coma resulted from the massing of the young parasites in the brain, it was generally gradual in onset, and the prognosis was very unfavorable. In some cases the coma developed suddenly, and was more amenable to appropriate treatment. The general clinical character of these cases indicated that an embolic process was concerned in their causation. Of eleven cases of the first class, reported by the writer, ten proved fatal. To summarize: The three anatomical conditions were: (1) The mechanical obstruction of the cerebral capillaries by large numbers of young parasites; (2) an embolic process causing an occlusion of some vessels (usually temporary) by parasites or pigmented leucocytes, and (3) a general toxemia, such as might occur in other infectious diseases, the blood showing few, if any, autumnal rings.

DR. W. B. NOYES said that two years ago he had seen at the Columbus Hospital, in the service of Dr. C. H. Lewis, a case in which there was coma, stertorous respiration, partial paralysis and irresponsive pupils. The blood taken from the spleen at autopsy showed the presence of pigmented leucocytes, parasites of the estivo-autumnal variety. Sections from every part of the brain, without staining, showed that the walls of the capillaries were infiltrated with pigment. The absence of the parasites and the enormous amount of pigment were especially noteworthy. In the other organs of the body the usual lesions of pernicious malarial fever were found. In this case the diagnosis during life had been cerebral hemorrhage by almost every physician who had seen the case—certainly the clinical appearances were the usual ones found in cerebral hemorrhage.

DR. LEWIS A. CONNER thought the jaundice might explain some of the comas that were otherwise inexplicable. It was surprising sometimes how an apparently moderate degree of jaundice might be associated with very marked cerebral symptoms.

DR. FRAENKEL said that he looked upon most of the nervous consequences of malaria as due to toxemia. He was reminded of a patient who had presented a well-defined picture of aneurism at the base of the brain. He had been under observation for a considerable time without noteworthy symptoms until suddenly he had chills and fever. At that time the patient was in a room in the hospital in which there had been malarial fever. The chills and fever recurred regularly for two or three days, and then he was removed to another room. He then had an acute maniacal seizure, and after half an hour talked in a typical paranoiac fashion. He next became rational, but developed the same train of symptoms the next day at the same time. The blood showed the estivo-autumnal parasites. The man finally recovered, and is well at the present time. Another case was cited bearing upon the view that a malarial toxemia was responsible for most of the nervous symptoms. When first seen this person had been sick only two hours. He stated that he had suddenly become unconscious, and that this had been immediately followed by a urticarial eruption. He had a very slow pulse and some fever. On the third day there was a severe chill, some jaundice, and a temperature of 104° F. The blood showed the presence of the parasites of estivo-autumnal malaria. The patient recovered in due time, only to have a similar attack about the same time the following year. Such a case, the speaker thought, could hardly be explained by mechanical obstruction; it was rather an example of the effect of a general toxemia.

DR. HUGHES said that the paper was very satisfactory in that it explained certain old and well known clinical facts. Williamson of England had been one of the first authors to refer to the effect of malaria on the nervous system. A case of infantile paraplegia was recalled which he had seen many years ago. When first seen the patient had been unable to sit or stand. He had at once suspected malaria, and a vigorous course of quinin had resulted in a rapid and seemingly miraculous cure. He was inclined to believe that the effect of malarial infection was principally spent upon the vasomotor system.

DR. WILLIAM HIRSCH reported a case of a gentleman sent to him from the South about one year ago, with a diagnosis of spinal tumor. The symptoms were atrophy of the muscles of the left shoulder, associated with intense pain. The patellar reflexes were exaggerated. After having had the patient under observation for some time, and studying the previous history very carefully, he had become convinced that this was not the correct diagnosis. The patient gave a history of having had a somewhat similar attack some time before from which he had recovered. While under observation the

man had developed a typical malarial temperature, and this had been associated with splenic enlargement. Examination of the blood at that time had been negative. After about six weeks of antimalarial treatment recovery had been complete. A very peculiar symptom in this case was a decidedly tender swelling over the sternum. This had disappeared as the patient had improved. The man, against advice, had returned to his home in the South, and when seen again, a few weeks ago, had been in a worse condition than the year previous. The left clavicle then exhibited a tender swelling, like that observed previously over the sternum. There were similar swellings over one ulna and on one portion of the skull. He was now improving rapidly under antimalarial treatment. The case was reported because of this peculiar affection of the bones.

DR. TELLER of Memphis said that he practised in a district in which malaria was exceedingly common and very malignant. In his neighborhood these peculiar neurotic manifestations of malaria were so common as to make the physicians constantly on the lookout for them. The cases of cerebral congestion were all too common, and very frequently proved fatal. The physicians of his locality looked upon the disease as a profound toxemia.

DR. EWING said that he had been especially interested in the remarks of one of the speakers concerning patients exhibiting jaundice. These subjects commonly showed at autopsy profound and peculiar changes in the liver. In the cases reported by Dr. Hirsch there were certain features that seemed to him to point to syphilitic infection. In conclusion, the speaker said that the medical profession is too prone to jump to the conclusion that a disease is malarial because it seems to respond to the administration of quinin. A very large number of nervous conditions, that had been referred to as malaria by the older writers, should be excluded at the present time, because they had not been properly authenticated according to modern notions.

THERAPEUTIC HINTS.

For the Induration of Eczema and Psoriasis.—UNNA of Hamburg states that the induration observed at the site of old spots of eczema or psoriasis are not due to an infiltration of the corium, as is generally believed, but to a simple hyperplasia of the Malpighian layer of the epidermis, which he treats as follows: If the affected areas be limited in extent:

℞ Ungt. zinci oxidi, Resorcin } aa. . . . . ℥ ss
Ichthyol, Vaselini } aa. . . . . 3 i.
M. Ft. unguentum. Sig. External use.

If the areas be extensive the application should be less powerful:

℞ Ungt. zinci oxidi . . . . . ℥ iss
Resorcin, Vaselini } aa. . . . . ℥ ss.
M. Ft. unguentum. Sig. External use.

A thin layer of the ointment is spread over the indurated areas daily until the epidermis begins to peel off, which occurs in from one to three days. The applications then cease, and if the process be painful a sedative ointment is used until the new epidermis is formed.

For Painful Bruises.—

℞ Tinct. aconiti, Tinct. opii, Chloroformi } aa. . . . . ℥ ss.
M. Sig. External use. Shake well.—*Whelpley.*

Liniment for Use in Rheumatism.—

℞ Tinct. camphoræ, Tinct. opii, Spts. ammoniæ } aa. . . . . ℥ ss
Ol. olivæ . . . . . ℥ i.
M. Ft. emulsio. Sig. External use.—*Dunglison.*

For Sensitive and Irritated Nipples.—

℞ Ichthyol . . . . . 3 ii
Lanolini, Glycerini } aa. . . . . 3 iiss
Ol. olivæ . . . . . 3 v.
M. Ft. unguentum. Sig. External use.—*Oehren.*

The Usefulness of Spartein in Cocain Anesthesia.—SCHEPPEGRELL claims that danger of heart failure from cocain is avoided by the simultaneous employment of spartein which acts as a cardiac tonic while not detracting from the anesthetic effect of the cocain. Three-quarters of a grain of spartein allowed to three-fifth of a grain of cocain.

To Promote Uterine Contractions.—In cases of deficient contractions during labor, due to a lack of muscle tone, the following formula is recommended:

℞ Quininæ sulphat. . . . . gr. xl
Ac. sulphur. aromat. . . . . q. s. ft. sol.
Syr. zingiberis . . . . . ℥ i
Aquæ . . . . . q. s. ad. ℥ ii.
M. Sig. Initial dose, one tablespoonful; afterward, two teaspoonfuls every four hours.—*Ringer.*

For Bronchitis.—

℞ Syr. tolutani, Syr. pruni virg., Tinct. hyoscyami, Spts. etheris comp. } aa. . . . 3 iii
Aquæ dest. . . . . q. s. ad. ℥ ii.
M. Sig. One teaspoonful every three hours.—*Janeway.*

For Syphilitic Alopecia.—It is advisable to keep the hair cut short and to frequently apply a stimulating lotion, such as the following:

℞ Hydrargyri chloridi corros. . . . gr. iv
Chloralis hydrat. . . . 3 i
Resorcin . . . . 3 ss
Ol. ricini . . . . . *m.* xvi
Tinct. cinchonæ . . . ℥ ii
Spiritus (ninety per cent.) . . ℥ v.
M. Sig. Apply to scalp.

The patient should be told that temporary reddening of the hair may result from the use of the cinchona.—*Gaucher.*